

SEQUENCE LISTING

<110> Zyskind, Judith.
Forsyth, R. Allyn

<120> GENES IDENTIFIED AS REQUIRED FOR PROLIFERATION IN
ESCHERICHIA COLI

<130> ELITRA.001C1

<140> Unknown

<141> 2004-02-03

<150> 09/492,709

<151> 2000-01-27

<150> 60/117,405

<151> 1999-01-27

<160> 485

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 159

<212> DNA

<213> E. Coli

<400> 1

cagggtggtat	ggaacccaa	aatggagacg	ggaagctgaa	ccagatagtt	actggaggtg	60
atcaccagca	gatgaaataa	cgataaccag	aacaacgcct	tatagcgttg	agtttgcgag	120
aaaacgttca	tattgtacct	ttttgattaa	ccattgggg			159

<210> 2

<211> 696

<212> DNA

<213> E. Coli

<220>

<221> misc_feature

<222> (1)...(696)

<223> n = A,T,C or G

<400> 2

gattacatca	agcgcgcggt	gggtttaccg	ggcgataaaag	tcacttacga	tccggtctca	60
aaagagctga	cgattcaacc	gggatgcagt	tccggccagg	cggttgaaaa	cgcgctgccg	120
gtcacctact	caaacgtgga	accgagcgat	ttcgttcaga	ccttctcacg	ccgtaaatggt	180
ggggaagcga	ccagcggatt	ctttgaagtg	ccgaaaaacg	aaaccaaaga	aaatggaatt	240
cgtctttccg	agcgtaaaga	gacactgggt	gatgtgacgc	accgcattct	gacagtgccg	300
attgcgcagg	atcaggtggg	gatgtattac	cagcagccag	ggcaacaact	ggcaacctgg	360
attgttcctc	cgggacaata	cttcatgatg	ggcgacaacc	gcgacaacag	cgcggaacagc	420
cgttactggg	gctttgtgcc	ngaagcgaat	ctggtcggtc	nggcaacggc	tatctggatg	480
aacttcgata	accaagaagg	cgaatggccg	aatggctctgc	cctaantcgc	attggcgnnt	540
ccnttaatan	ccacttcctt	cnctttgtcc	ccttatggca	acacttaatt	tattntaaan	600
taatnccccg	tggetnacaa	atccccgcct	tttnttaaaa	atttcccnna	anttaagggtt	660
ggcctccagt	tgcccgnccc	aaacactttg	gncccc			696

<210> 3
 <211> 681
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(681)
 <223> n = A,T,C or G

<400> 3

ctgcagggta	atgtcgccat	taaactggcg	caggcagcca	aagagttgct	ccgcttctac	60
ccagtcggca	gcgacaactt	gcgttaaagt	cgcaaaatta	tcactctgcac	tcactgcgtg	120
acgtaagcgg	atggagtggc	cggaacctc	atagtgaccg	cccaccagtt	ggcctgcatc	180
gctttgtagc	gtacgcgcgg	cattggcaat	aagattcaga	tactcagact	cttccggggc	240
cttcgccagc	ataaaagagg	aggatgctcg	cgtatgcagc	aactgctcca	gcgcaaattg	300
cagccgcggt	tgagtatcac	tgaataaagg	atcgttttcg	tcaatcaa	gtggctgagc	360
aaatatttcc	tgatagctat	cggtatcagg	aaccagggtca	cgccatgcaa	gtttcgtaat	420
ggtcaaagtt	gatgtttttt	agtctgttgt	caaagccgcn	attataccng	taaccggcac	480
tacagcacac	gtagaaagca	cccgacaata	ctcctggcat	gggcggttaa	gctcacagga	540
tggagatctt	ttcttcaactg	gcctaaaaag	ctgatattct	gtaaagagtt	acacngtaac	600
attgagatcg	ctatgaaata	tcaacaactt	ggaaaatctt	gnaaagcngg	ttggaaaatg	660
gaaagtatct	ggttaagaag	c				681

<210> 4
 <211> 289
 <212> DNA
 <213> E. Coli

<400> 4

ggcagaattt	tacgctgacc	aatgacgcga	cgacgtggca	tggaaatact	ccgttggttaa	60
ttcaggattg	tccaaaactc	tacgagttta	gtttgacatt	taagttaaaa	cgtttggcct	120
tacttaacgg	agaaccatta	agccttagga	cgcttcacgc	catacttgga	acgagcctgc	180
ttacggtctt	taacgccgga	gcagtcaagc	gcaccacgta	cggtgtggta	acgaacaccc	240
gggaggtctt	taacacgacc	gtcacggatc	aggatcacgg	agtgtctcct		289

<210> 5
 <211> 815
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(815)
 <223> n = A,T,C or G

<400> 5

gggagcttac	atcagtaagt	gaccgggatg	agcgagcgaa	gataacgcat	ctgcggcgcg	60
aaatatgaag	ggggagagcc	cttatagacc	aggtagtaca	cgtttggtta	gggggcctgc	120
atatggcccc	ctttttcact	tttatatctg	tgcggtttta	tgcgggcag	atcacatctc	180
cgaggatttt	agaatggctg	aaattaccgc	atccctggta	aaagagctgc	gtgagcgtag	240
tggcgaggc	atgatggatt	gcaaaaaagc	actgactgaa	gctaacggcg	acatcgagct	300
ggcaatcgaa	aacatgcgta	agtcgggtgc	tattaaagca	gcgaaaaaag	caggcaacgt	360
tgctgctgac	ggcgtgatca	aaacaaaaat	cgacggcaac	tacggcatca	ttctggaagt	420
taactgccag	actgacttcg	ttgcaaaaga	cgctgggttc	caggcggttcg	cagacaaagt	480
tctggacgca	gctgttgctg	gcaaaatcac	tgacgttgaa	gttctgaaag	cacagttcga	540
agaagaacgt	gttgcgctgg	tagcgaaaat	tggtgaaaac	atcaacattc	gccgcggttg	600

tgcgctggaa	ggcgacgttc	tgggttctta	tcagcacggt	gcgcgatatcg	gccgttctgg	660
ttgctgctaa	aagcgctgac	gaagaactgg	ttaaacacat	cgttttgacc	tttgttgcaa	720
gccaagccag	aattcagaga	aactttccgc	ttcaccggag	gtcccaccca	cangganccc	780
cgattttntc	agcatggtgg	tcttctnecg	gagtt			815

<210> 6
 <211> 403
 <212> DNA
 <213> E. Coli

<400> 6						
caacactatt	ttgttgaccg	gaaaatggaa	cactttccgc	aatgcctggt	gctatcacgc	60
ttaaaccatt	tcattgcat	ttacacagaa	cggacgtcct	gtcgcagtat	attaagtcgt	120
cgatagaaac	aagcattgaa	aggcacagca	gtagtcaaac	agtgtgaaac	gctactggcg	180
ccttacagcg	caaaaaggct	ggtgactaaa	aagtcaccag	ccatcagcct	gattttctcag	240
gctgcaaccg	gaagggttgg	cttattttaac	ttcaacttca	gcgccagctt	cttcagagc	300
ttttttcagt	gcttctgcgt	cgtctttgct	cacgccttct	ttcagagcag	ccggtgcaga	360
ttctaccagg	tctttagctt	ctttcagacc	caggccagtt	gcg		403

<210> 7
 <211> 149
 <212> DNA
 <213> E. Coli

<400> 7						
gagctttttt	cagtgccttct	gcgtcgtctt	tgctcacgcc	ttctttcaga	gcagccggtg	60
cagattctac	caggctcttta	gcttctttca	gaccaggcc	agttgcgcca	cgtagctgctt	120
tgataacagc	aactttgtta	gcgccagca				149

<210> 8
 <211> 742
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(742)
 <223> n = A,T,C or G

<400> 8						
ccatctgtcc	attgagcgga	cagtttgtgc	aacactatth	tggtgaccgg	aaaatggaac	60
actttccgca	atgcctgttg	ctatcacgct	taaaccatth	cattgcgatt	tacacagaac	120
ggacgtcctg	tcgcagtata	ttaagtcgtc	gatagaaaca	agcattgaaa	ggcacagcag	180
tagtcaaaca	gtgtgaaacg	ctactggcgc	cttacagcgc	aaaaaggctg	gtgactaaaa	240
agtcaccagc	catcagcctg	atttctcagg	ctgcaaccgg	aagggttggc	ttattttaact	300
tcaacttcag	cgccagcttc	ttccagagct	tttttcagtg	cttctgcgtc	gtctttgctc	360
acgccttctt	tcagagcagc	cggtgcagat	tctaccaggt	ctttagcttc	tttcagaccc	420
aggccagttg	cgccacgtac	tgctttgata	acagcaactt	tgttagcgcc	agcagctttc	480
agaattacgt	cgaattcagt	tnthttcttca	gcagcttcaa	ccggggccagc	agctacagct	540
acagcagcag	caagcggaac	caccgaatth	ttcttccatt	gcagagatca	gttctacaac	600
cgtccattac	agacatagct	gcaactgctt	caatgattth	gatctthtagt	ggatagacat	660
ttaaattgtt	cctgaattat	caagaaataa	gtnttatagc	taagccgaaa	tgcgttaaaa	720
aagataactg	ngattaaagc	ag				742

<210> 9
 <211> 421
 <212> DNA

<213> E. Coli

<400> 9

agtagtcaaa	cagtgtgaaa	cgctactggc	gccttacagc	gcaaaaaggc	tggtgactaa	60
aaagtcacca	gccatcagcc	tgattttctca	ggctgcaacc	ggaaggggtg	gcttatttaa	120
cttcaacttc	agcgccagct	tcttccagag	cttttttcag	tgcttctgcg	tcgtctttgc	180
tcacgccttc	tttcagagca	gccgggtgcag	attctaccag	gtcttttagct	tctttcagac	240
ccaggccagt	tgcgccacgt	actgctttga	taacagcaac	tttgttagcg	ccagcagctt	300
tcagaattac	gtcgaattca	gttttttctt	cagcagcttc	aaccggggcca	gcagctacag	360
ctacagcagc	agcagcggaa	acaccgaatt	tttcttccat	tgcaagagatc	agttctacaa	420
c						421

<210> 10

<211> 126

<212> DNA

<213> E. Coli

<400> 10

agagcttttt	tcagtgccttc	tgcgtcgtct	ttgctcacgc	cttctttcag	agcagccgggt	60
gcagattcta	ccaggctcttt	agcttctttc	agaccagggc	cagttgcgcc	acgtactgct	120
ttgata						126

<210> 11

<211> 262

<212> DNA

<213> E. Coli

<220>

<221> misc_feature

<222> (1)...(262)

<223> n = A,T,C or G

<400> 11

ctgcaaccgg	aagggttggc	ttatttaact	tcaacttcag	cgccagcttc	ttccagagct	60
tttttcagt	cttctgcgtc	gtctttgctc	acgccttctt	tcagagcagc	cgntgcagat	120
tctaccaggt	ctttagcttc	tttcagaccc	aggccagttg	cgccacgtac	tgctttgata	180
acagcaactt	tgtagcgcc	agcagctttc	agaattacgt	cgaattcagt	tttttcttca	240
gcagcttcaa	ccgggccagc	ag				262

<210> 12

<211> 202

<212> DNA

<213> E. Coli

<220>

<221> misc_feature

<222> (1)...(202)

<223> n = A,T,C or G

<400> 12

gcgcataccc	tgcaagcatcg	gcccgatgga	gatcagggtcg	gcagaacgct	gtaccgcttt	60
gtagggtggtg	ttaccgggtgn	tcagatccgg	gaagatgaac	acggtagcgc	gacctgcaac	120
cggagaggttc	ggcgcttttg	attncgcaac	gtcagccatt	accgcagcgt	cgtactgcag	180
cggaccggcg	atcatcaggt	ca				202

<210> 13

<211> 261

<212> DNA
<213> E. Coli

<400> 13
tctaggagta agaatagctt caaattcagc agttgacagt ggcataaacg taactggtga 60
cttttgcccg gcatgacgcc gggctttttt tattattccg tgacttccag cgtagtgaag 120
gcaaacttct cgccatcaaa tagccctga ctggttagtt ttagcgcggg gatcactggc 180
agagaaagaa acgccatctg aataaacggc tcatcgggta acggaccgca ttcacgggcg 240
gcggctttca aggcgtcaat t 261

<210> 14
<211> 224
<212> DNA
<213> E. Coli

<400> 14
ttcttttttt cgtcaacggt gtccagaatc attttattta cctcggggta cttatgctga 60
tttttattat tatggggaag gtgttattta tgagtttcat ttatgccgta acgacaatga 120
actcgggaat tagtataagc agcgcgagaa taataatcat tgtgcaaag ctaattta 180
taatactatt taaatattat tttgagcata tgcacataag gttg 224

<210> 15
<211> 232
<212> DNA
<213> E. Coli

<400> 15
aatcccttc tttttttcgt caacggtgtc cagaatcatt ttattttacct cgggtactta 60
tgctgatttt tattattatg gggaagggtg tatttatgag tttcatttat gccgtaacga 120
caatgaactc gggaattagt ataagcagcg cgagaataat aatcattgtg caaatgctaa 180
tttaattaat actatttaaa tattattttg agcatatgca cataagggtg gg 232

<210> 16
<211> 212
<212> DNA
<213> E. Coli

<400> 16
aatagcgggt atgcacgcct ttcttttttt cgtcaacggt gtccagaatc attttattta 60
cctcgggtac ttatgctgat ttttattatt atggggaagg tggtatttat gagtttcatt 120
tatgccgtaa cgacaatgaa ctcggaatt agtataagca gcgcgagaat aataatcatt 180
gtgcaaatgc taatttaatt aatactattt aa 212

<210> 17
<211> 433
<212> DNA
<213> E. Coli

<400> 17
ccttgtaaat tatcgcccggt ggcataaaaa ctgctgcca acgccgtctt tgccagcagc 60
caggccataa atgccaccag aattatcgct aaccaacca ttgctgaaac gccaagcagc 120
agcggggcgg agagctgttt cagttcggcg ggtaaccctt caatccattt gccgccagtc 180
cacagcaaca tgatgcctct gtacaaccct aacgtgccaa ggggtggcaac aatggcaggg 240
atcttttagcc acgcgaccag gacaccgttg aaaaatcccg cgagcaaacc aagcagtaaa 300
gtcgcgacac aagcaacagg tagtgaatat cctgcgttca gtaacatccc caacagcacc 360
gcgcacattc cggtaatcga acccaactgaa acatcaatat tgcgcgtaag cattaccagc 420
gtcgcgcca ttg 433

<210> 18
 <211> 658
 <212> DNA
 <213> E. Coli

<400> 18
 cgtgcgcttc cggttggtggc aaccgcgcgaa atggcgcgggc ggtaagtatg gcgggggttat 60
 tccttccccg ttgaggacac cgggttggtca ggttgaccat acgcttaagt gacaaccccg 120
 ctgcaacgcc ctctgttatc aattttctgg tgacgtttgg cggtatcagt ttactccgt 180
 gactgctctg ccgccctttt taaagtgaat tttgtgatgt ggtgaatgcg gctgagcgca 240
 cgcggaacag ttaaaaccaa aaacagtgtt atgggtggat tctctgtatc cggcgttaat 300
 tgttaactgg ttaacgtcac ctggaggcac caggcactgc atcacaaaat tcattgttga 360
 ggacgcgata atgaaaacgt tattaccaaa cgtaatacgc tctgaagggt gttttgaaat 420
 tgggtgtcact atcagtaacc cagtattttac tgaagatgcc attaacaaga gaaaacaaga 480
 acgggagcta ttaataaaaa tatgcattgt ttcaatgctg gctcgtttac gtctgatgcc 540
 aaaaggatgt gcacaatgaa ttcagcattt gtgcttggtc tgacagtttt tcttgtttcc 600
 ggagagccag ttgatattgc agtcaagtgg tcacaggaca atgcaggagt gtatgact 658

<210> 19
 <211> 588
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(588)
 <223> n = A,T,C or G

<400> 19
 gtgactgctc tgccgccctt tttaaagtga attttgtgat gtggtgaatg cggctgagcg 60
 cacgcggaac agttaaaacc aaaaacagtg ttatgggtgg attctctgta tccggcgtta 120
 attgttaact ggtaacgtc acctggaggc accaggcact gcatcacaaa attcattgtt 180
 gaggacgca taatgaaaac gttattacca aacgttaata cgtctgaagg ttgttttgaa 240
 attggtgtca ctatcagtaa ccagtatatt actgaagatg ccattaacaa gagaaaacaa 300
 gaacgggagc tattaaataa aatatgcatt gtttcaatgc tggctcgttt acgtctgatg 360
 ccaaaaggat gtgcacaatg aattcagcat ttgtgcttgt tctgacagtt tttcttgttt 420
 ccggagagcc agttgatatt gcagtcagtg ttcacaggac aatgcangag tgtatgactg 480
 cagcaacccg aacagaaaat tcccggtaac tgttaccggc tcgataaagt tattcaccag 540
 gataatatcg aaatcccggc aggtctttta aacagttccg taataaat 588

<210> 20
 <211> 101
 <212> DNA
 <213> E. Coli

<400> 20
 gatccagcaa gaagatgcgg ttgtaccgtc atcacgcaga tgcgcaaagc tactcagcaa 60
 ctgacctttc ttcgcaataa gcacgccatt agcgtcatag a 101

<210> 21
 <211> 465
 <212> DNA
 <213> E. Coli

<400> 21
 tcgcgtgttt accttcaaca tcggtaactt tctggcggat agtttcacgg taagcaacct 60

gcgggtttacc	tacgtttcgct	tcaacgttga	attcacgctt	catacgggtca	acgatgatgt	120
cgaggtgcag	ttcgcccata	cccgcgatga	tggctctggt	agattcttcg	tcagtcata	180
cacggaaaga	cgggtcttct	ttagccagac	ggcccagagc	cagacccatt	ttttcctggt	240
cagctttggt	tttcggttca	actgcgatgg	agattaccgg	ctcagggaat	tccatacgtt	300
ccagaatgat	cggcgcaccc	gggtcacaca	gggtgtcacc	agtggttacg	tcttttcagac	360
cgatagcagc	agcgatgtcg	cccgcgcgaa	cttctttgat	ctctttcacgt	ttgttagcgt	420
gcatctgaac	gatacgaccg	aaacgctcac	gtgcagcttt	cacgg		465

<210> 22

<211> 859

<212> DNA

<213> E. Coli

<220>

<221> misc_feature

<222> (1)...(859)

<223> n = A,T,C or G

<400> 22

tgatcggctc	aagcagaact	ggtttcgctt	tcttaaagcc	ttcttttaaag	gcgatagaag	60
cagccagttt	aaacgccagt	tcagaggagt	caacgtcatg	gtaagaaccg	aagtgcagac	120
gaatacccat	gtctactacc	gggtagcctg	ccagcggacc	tgctttcagc	tgttcctgga	180
tacctttatc	aacggccggg	atgtattcgc	cagggattac	accaccttta	atgtcgttga	240
tgaactcgta	gcctttcggg	tttgaacccg	gctccagcgg	gtacatgtcg	ataacaacat	300
gaccatactg	accacgacca	ccagactgtt	tcgcgtgttt	accttcaaca	tcggtaactt	360
tctggcggat	agtttcacgg	taagcaacct	gcggtttacc	tacgttcgct	tcaacgttga	420
attcacgctt	catacgggtca	acgatgatgt	cgaggtgcag	ttcgcccata	cccgcgatga	480
tggctctggt	agattcttcg	tcagtcata	cgggtcttct	ttagccagac		540
gggccanagc	cagacccatt	ttttcctggt	cagctttggt	tttcgggtcaa	ctgcgatgga	600
gattaccggc	tcanggaatt	tccatacctt	ccaggaatga	tcggcgcatt	ccggtcaaac	660
angnggtacc	aggggggtac	ntnttttttaa	nancgattgc	cagcancgga	tntnncccgn	720
gccnaacttc	tttggaaacnn	tttaccgggt	ggtaaccngc	ctttttnaacn	atccaaccga	780
aaaagngtta	anngccantt	ttccngnggt	tnanntncgg	nttcccngaa	ntaaccncnc	840
cggggttnaac	ccngnaaaa					859

<210> 23

<211> 269

<212> DNA

<213> E. Coli

<400> 23

ctttctttaa	gccttcttta	aaggcgatag	aagcagccag	tttaaaccgc	agttcagagg	60
agtcaacgtc	atggtaagaa	ccgaagtga	gacgaatacc	catgtctact	accgggtagc	120
ctgccagcgg	acctgctttc	agctgttcc	ggataccttt	atcaacggcc	gggatgtatt	180
cgccagggat	tacaccacct	ttaatgtcgt	tgatgaactc	gtagcctttc	gggtttgaac	240
ccggctccag	cgggtacatg	tcgataaca				269

<210> 24

<211> 330

<212> DNA

<213> E. Coli

<400> 24

gttttgggga	gatgtaagg	ctaactctgaa	tggctgcatt	ccttggttta	ggaaaaacga	60
atgactgatt	gccgatacct	gattaaacgg	gtcatcaaaa	tcatcattgc	tgttttacag	120
ctgatacctt	tgttcttata	acacaaggaa	acgtacttaa	gggtgcgtccg	gtgaaccagt	180
cggacgcacc	tttaataact	ataaataagt	gtctgggcag	atactatata	aattaactta	240

gtgaatgatt atgctaattgt catcaattaa ataaatataa tggcggttaag gcttcccagt	300
aataataatta atactctact tccagagtag	330

<210> 25
 <211> 471
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(471)
 <223> n = A,T,C or G

<400> 25	
gttttgggga gatgtaaggg ctaatctgaa tggctgcatt ccttgtttaa ggaaaaacga	60
atgactgatt gccgatacct gattaaacgg gtcatacaaaa tcatcattgc tgttttacag	120
ctgatccttc tgttcttata acacaaggaa acgtacttaa ggtgccgtcc ggtgaaccag	180
tcggacgcac ctttaataac tataaataag tgtctgggca gatactatat aaattaactt	240
agtgaatgat tatgctaattg tcatcaatta aataaatata atggcgtaa ggcttcccag	300
taatataatt aatactctac ttccagagta gaatattaaa ttttatccgc gtggtgcatc	360
agcacaaatt tatcccacaa ctgttcttct gtctcgacat gcccccgat ctttnacaaa	420
tantattggg ggattnggcc cncctttttg ncagggttggg gtcntctnat g	471

<210> 26
 <211> 379
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(379)
 <223> n = A,T,C or G

<400> 26	
natctgantg gctgcattcc ttgtttaagg aaaccggaat gactgattgc cgatacctga	60
ttaaaccgggt catcaaaaatc atcattgctg ttttacagct gatccttctg ttcttataac	120
acaaggaaac gtacttaagg tgcgtccggt gaaccagtcg gacgcacctt taataactat	180
aaataagtgt ctgggcagat actatataaa ttaacttagt gaatgattat gctaattgtca	240
tcaattaaat aatatataatg gcgttaaggc ttcccagtaa tataattaat actctacttc	300
cagagtagaa tattaaattt tatccgcgtg gtgcatcagc acaaatattat cccacaactg	360
ttcttctgtc tcgacatgc	379

<210> 27
 <211> 799
 <212> DNA
 <213> E. Coli

<400> 27	
aaagatgatg tgatgagaaa gtcaatttga ataagacaat attaagagct aaaaaaatgt	60
caaaaaacac taaatcaaaa aataatggca ttagaaaata taatgcgaaa acggaggtga	120
aattagttta ttccaatga ggaaaatctc ccggcgaaaa aaccgggaga tgaaagtgtg	180
atgggtatca aataaacaac agaggagaaa tttttaacgc agccattcag gcaaatcggt	240
taatcccatt gcctggcgga taagttgcgg cttaacgcca ggaagcgtgt cggccagttt	300
caaaccaata tcacgcagca gttttttcgc cggattggta ccggaaaaca gatcgcggaa	360
tccttgcata ccagccagca tcaacgcgc actgtgcttg cggctacgct catagcgacg	420
cagataaatg tactgcccga tgtctgggat ccgtcgacct gcagccaagc ttgggctttt	480
cagcctgata cagattaaat cagaacgcag aagcggctctg ataaaacaga atttgcctgg	540

cggcagtagc	gcggtggtcc	cacctgaccc	catgccgaac	tcagaagtga	aacgcccgtg	600
gcgcccgatg	gtagtgtggg	gtctcccat	gcgagagtag	ggaactgcc	ggcatcaaat	660
aaaacgaaag	gctcagtcga	aagactgggc	ctttcggttt	atctgggtgt	tgctcggtgaa	720
cgctctctga	gtaggacaaa	tccgccggga	gcggattttt	aacgttgcca	aacaaccggc	780
ccggaaagg	gtgggggct					799

<210> 28
 <211> 636
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(636)
 <223> n = A,T,C or G

<400> 28						
aggggggtttg	ttgtgggcaa	tgatgcattt	aagttatcgt	ctgcagatag	aggagatatt	60
acaataaaca	acgaatcagg	gcatttgata	gtcaataccg	caattctatc	aggagatata	120
gtcactctaa	gaggaggaga	aattagggtt	gtattatagc	ttgtgcgcgc	catgattggc	180
gcgcaattta	aacttagtgc	ttacatcgc	tattgtcttg	atttctttga	attattttat	240
aaattaaaaa	aacgactgtt	atgtataagc	aaaggctcgaa	cgaaaaatac	attccaaata	300
aatgcttgct	taaatctcta	tatccttccc	cgaaaaatga	cacataaaat	tgagatattc	360
caaaaagaga	tactacaaat	aaagatgcct	ttattttatt	atttctaata	aaaatagaag	420
caataaaaaa	taataacaat	gatataaatc	taatgttttt	aaatatattg	tcttttatgt	480
tagtaatagt	cgtagtatg	tttgattctc	catatattac	gtgtagtttt	ttatatacat	540
ggaaataatt	ntctttatac	tgagacatca	caccatcatc	aatggaagt	ttgaagatgg	600
tgcttggttt	gctaaccaat	aaaaagagt	cattcg			636

<210> 29
 <211> 757
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(757)
 <223> n = A,T,C or G

<400> 29						
cagcggtcgt	atttttagca	tggtttttta	ttggcggcta	tgctgccccg	ggagcataaa	60
gatgaaaaaa	acaacgatta	ttatgatggg	tgtggcgatt	attgtcgtac	tcggcactga	120
gctgggatgg	tggtaacgtc	acctctaaaa	aatagcaaag	gctgcctgtg	tcgagccttt	180
gtgcaattta	agcgtaact	tttaatcttc	ctgtagataa	atagcacgac	aatcgcacca	240
ataacggcaa	ccacgaagct	gccaaaattg	aagccatcga	ctttaccaa	gccaaacagc	300
gtgctgatcc	atccgccgac	tacggcaccg	actatcccca	gcaggatagt	cataaagaat	360
ccacctccat	ctttacctgg	catgatccac	ttcgccagaa	taccggcaat	aagccaaaaa	420
ataatccatg	acagaatgcc	cattgtttcc	tcacttatct	gttttgcat	agcgggttag	480
tcgctgataa	aaagcatagc	acaacatcgg	gagggcaaga	tttgtgacga	gcatcacgga	540
ggtttttttt	gcgatggcgc	agaaattgcg	ccatcaacga	tcagtataa	ttaccaacca	600
caaacatcat	gttcgttttc	cgtgtcataa	gaaccgtacg	ggattcacca	gatcttttat	660
cacttcaagc	cggcacttct	ggcaccagca	aagtcacgcg	cgtctctggt	tcataatcga	720
ccggaaacgc	cattgctggt	attggtgaac	gtcacgg			757

<210> 30
 <211> 392
 <212> DNA

<213> E. Coli

<400> 30

aattacagaa	aaaggaggca	ataticgggta	aaggcattag	cccgacgaat	acgtcggggt	60
acaaatatta	ttgtgctgca	ggtgtttttag	cgggttggtg	atccacaggt	tctaactgga	120
agaccacatc	gacctgatca	tcaaactgaa	tagcggcctg	ctcgtaagtt	tcctgggcgg	180
acaccggcgc	ggcatcggct	ttcatcatcc	gcaccattgg	gctgggctga	tagttggaaa	240
catggtagcg	cacgctatat	accggcccca	gtttacgatg	aaagccgttc	gccagttcct	300
gcgcctgatg	aatcgcgtta	tcaatcgctg	ccttacgcgc	tttgtcttta	taggcattccg	360
gctgcgccac	gcccagcgac	acagaacgaa	tt			392

<210> 31

<211> 351

<212> DNA

<213> E. Coli

<400> 31

ctatccttga	tgaaccgcg	agcaaagata	ggtgattacg	tcatggtttt	acagaaaatt	60
acagaaaaag	gaggcaatat	cgggtaaagg	cattagcccg	acgaatacgt	cgggctacaa	120
atattattgt	gctgcagggt	ttttagcggg	ttgttgatcc	acaggttcta	actggaagac	180
cacatcgacc	tgatcatcaa	actgaatagc	ggcctgctcg	taagtttcct	gggcggacac	240
cggcgcggca	tcggctttca	tcatccgcac	cattgggctg	ggctgatagt	tggaaacatg	300
gtagcgcacg	ctatataaccg	gccccagttt	acgatgaaag	ccgttcgcca	g	351

<210> 32

<211> 762

<212> DNA

<213> E. Coli

<220>

<221> misc_feature

<222> (1)...(762)

<223> n = A,T,C or G

<400> 32

aattatgaaa	cactgtcttg	aatcgtctga	atgacgggca	catttgcgag	cacgcatcca	60
gtaataacac	aggaaactat	tttatctacg	cgttagcgat	agactgcttg	catggcgaaa	120
ggaggtaagc	cgacgatattc	agcgggacgc	tgaacggga	aagcccctcc	cgagggaagg	180
gccataaata	aggaaagggt	catgatgaag	ctactcatca	tcgtggtgct	cttagtcata	240
agcttccccg	cttactaaga	ctaccagggc	gggggaaacc	ccgctctacc	ctcactcctg	300
aaagtatgcc	ttcacgataa	gattgtcaat	ccgcaggctt	tgtagtctgc	gatectgcc	360
gcaaataattc	tttgcgagtc	gttacgcaat	aatcacagag	gaaactat	tattcacgcg	420
ttagcgatag	actgcattca	gggcgaaagg	aggttaagccg	atgatttcag	cgggacgctg	480
aaacgggaaa	gcctctccc	gagaagagg	cttttaataa	ggaaagggtt	atgatgaagc	540
acgtcatcat	actgggtgata	ctcttagtga	ttagcttcca	ggcttactaa	gaacaccagg	600
gggaggggga	aacctcttcc	taaccctcac	ttctgaaatt	gggtgctatg	acgctggcgt	660
tactgcttan	cgctaccagt	ttgtctgccc	tggcggttgt	aacgccagat	cggtagccgt	720
ttggatat	taatgaaagc	cgacaaatca	atcancgtga	cg		762

<210> 33

<211> 293

<212> DNA

<213> E. Coli

<400> 33

gcacatttgc	gagcacgcat	ccagtaataa	cacaggaaac	tattttatct	acgcgttagc	60
gatagactgc	ttgcatggcg	aaaggaggta	agccgacgat	ttcagcggga	cgctgaaacg	120

ggaaagcccc	tcccgaggaa	ggggccataa	ataaggaaa	ggatcatgatg	aagctactca	180
tcacgcgtggt	gctcttagtc	ataagcttcc	ccgcttacta	agactaccag	ggcgggggaa	240
accccgctct	accctcactc	ctgaaagtat	gccttcacga	taagattgtc	aat	293

<210> 34
 <211> 633
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(633)
 <223> n = A,T,C or G

<400> 34						
atttacactt	tttacgaaat	catgggatca	ctaacaaaat	atcgcttgtc	agttatattg	60
tatggcagga	aagatatgcg	actgatatta	cagatcccca	aagtggagag	tttatgacca	120
ttaaaaaataa	gatgttgctg	ggtgcgcttt	tgctggttac	cagtgccgcc	tgggccgcac	180
cagccaccgc	gggttcgacc	aatacctcgg	gaatttctaa	gtatgagtta	agtagtttca	240
ttgctgactt	taagcatttc	aaaccagggg	acaccgtacc	agaaatgtac	cgtaccgatg	300
agtacaacat	taagcagtgg	cagttgcgta	acctgcccgc	gcctgatgcc	gggacgcact	360
ggacctatat	gggtggcgcg	tacgtgttga	tcagcgacac	cgacggtaaa	atcattaaag	420
cctacgacgg	tgagattttt	tatcatcgct	aaaaaaagcc	ccctcatcat	gagggggaaa	480
tgcagacacc	ttgntatttt	ttattattag	ccacttgctc	gtcttgcttg	gtattaagtc	540
gtatttcacg	ttgattaatg	cnggtggctc	cagtgcgcca	gattaacttt	gtttggatcg	600
aagacgtagt	aactggctgg	ttatcggaat	tgg			633

<210> 35
 <211> 569
 <212> DNA
 <213> E. Coli

<400> 35						
tatggcagga	aagatatgcg	actgatatta	cagatcccca	aagtggagag	tttatgacca	60
ttaaaaaataa	gatgttgctg	ggtgcgcttt	tgctggttac	cagtgccgcc	tgggccgcac	120
cagccaccgc	gggttcgacc	aatacctcgg	gaatttctaa	gtatgagtta	agtagtttca	180
ttgctgactt	taagcatttc	aaaccagggg	acaccgtacc	agaaatgtac	cgtaccgatg	240
agtacaacat	taagcagtgg	cagttgcgta	acctgcccgc	gcctgatgcc	gggacgcact	300
ggacctatat	gggtggcgcg	tacgtgttga	tcagcgacac	cgacggtaaa	atcattaaag	360
cctacgacgg	tgagattttt	tatcatcgct	aaaaaaagcc	ccctcatcat	gagggggaaa	420
tgcagacacc	ttgttatttt	ttattattag	ccacttgctc	gtcttgcttg	ttattagtcg	480
tatttcacgt	tgattaatgc	ggttgccctc	agtgcgccag	atttaacttt	gtttgtatcg	540
tagacgtagt	aactggctgg	tatcggaat				569

<210> 36
 <211> 338
 <212> DNA
 <213> E. Coli

<400> 36						
cgtattcaca	tccttttgat	tggtgataac	atgcgaatcg	gtattatttt	tccggttgta	60
atcttcatta	cagcggtcgt	attttttagca	tggtttttta	ttggcggcta	tgctgccccg	120
ggagcataaa	gatgaaaaaa	acaacgatta	ttatgatggg	tgtggcgatt	attgtcgtac	180
tcggcactgc	ctgggatggg	ggtaacgtca	cctctaaaaa	atagcaaagg	ctgcctgtgt	240
gcagcctttg	tgcaatttaa	gcgttaactt	ttaatcttcc	tgtagataaa	tagcacgaca	300
atcgcaccaa	taacggcaac	cacgaagctg	ccaaaatt			338

<210> 37
 <211> 375
 <212> DNA
 <213> E. Coli

<400> 37
 ctgaatattt aaaaaggaaa acgacatgaa accgaagcac agaatcaaca ttctccaatc 60
 ataaaatatt tccgtggagc attttattat tgaatataga ggtttaactc cggtaaaaaa 120
 caaagaagca ttgaatgcag ggaaaaataa tatggccata aaaaacatcg aaagaaactc 180
 ttttaattta acatgtaaac gcatgggttaa tcctcatatc acgggtggag tgttaagaac 240
 atacataaat ggagtcattt tttccctttt ccatttatca agttcctgtt gccgttttag 300
 tccatctcta attgcatatt ttaatttttc tgataaatgg cattgagcat cgatttcatt 360
 taaaacaact gtaca 375

<210> 38
 <211> 446
 <212> DNA
 <213> E. Coli

<400> 38
 ttacgatagc tattagtaaa aatataagag ttagctgtat tggtatgtct gtggcgaaat 60
 tgactacctt cgtttttttg attaagaatg attttattat cgtaagtaaa attacatgaa 120
 tatttaaaaa ggaaaacgac atgaaaccga agcacagaat caacattctc caatcataaa 180
 atatttccgt ggagcatttt attattgaat atagagggtt aactccggtg aaaaacaaag 240
 aagcattgaa tgcagggaaa aataatatgg ccataaaaaa catcgaaaga aactctttta 300
 atttaacatg taaacgcatg gttaatcctc atatcacggg tggagtgtta agaacataca 360
 taaatggagt catgttttcc cttttccatt tatcaagttc ctggtgccgt tttagtcatt 420
 ctctaattgc atattttaat ttttct 446

<210> 39
 <211> 392
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(392)
 <223> n = A,T,C or G

<400> 39
 tcaccccggt gccgattttc aggcattcctg atttaactta gcacccgcaa cttaactaca 60
 ggaaaaacaaa gagataaatg tctaatacctg atgcaaatcg agccgatttt ttaatcttta 120
 cggacttttta cccgcctggt ttattaattg cactgtnatc cgggcgttcg cccgctttaa 180
 tcacaatagg ctgtgtagcc tgggcctgtt tctctttcac ccgcgccaga gcggcagcaa 240
 tcgcatcttt atctttggct gcagggtgaa cggctgcgct cttatgtcgt tcaaggcgag 300
 ccgctttttc gcgctccaga cgagcctggc gcgcttcgaa acgcgctttg gcttctgcgg 360
 cncgcttttc ttcttgacga atagccgcaa tt 392

<210> 40
 <211> 208
 <212> DNA
 <213> E. Coli

<400> 40
 taataacgct atctgcggat aaagcagaat aggtgggttaa cccagacat aaaccgagga 60
 aaataatggt attgtatttc ataattctatt gttccttagc gacagattgc tgtctgctgg 120
 ttcagtaagg taccaggaga aacttcagga agcttgact cgacaataca gtttgagttt 180

ttatctttgc cccatgaaac ctgtaatt

208

<210> 41
<211> 342
<212> DNA
<213> E. Coli

<400> 41
catcctcaat accgtttaa gcaacccgaa ccccggttgt ccctttgctg cattcactta 60
acgtaatctg aaaagggacg gctggacttg tgctaccggt cgttggaat tgtctggcac 120
tggttttttg gagatctacg gtaaaattaa gcgaatccga tgagactgtg cagccataat 180
cgaggacgcg cccgctaatt ttaataacgc tatctgcgga taaagcagaa taggtgggta 240
accccgagaca taaaccgagg aaaataatgt tattgtatct cataatctat tgttccttag 300
cgacagattg ctgtctgctg gttcagtaag gtaccaggag aa 342

<210> 42
<211> 841
<212> DNA
<213> E. Coli

<220>
<221> misc_feature
<222> (1)...(841)
<223> n = A,T,C or G

<400> 42
agatttactg ccaatttccg gcagatcgga aaggggtaaa ccatattgat ccataagggg 60
acgaatcacg gctataccgc caggcatggc ttgagccatg gcattaaatt ccgcaaattc 120
gggcgctgat tcttcccacg cggttatatt ggacacacacc agatccagca aggggttntc 180
aggatcgttg agcagcagat gatctaccag ttncagcgcc tgggtgtatt gntccttggt 240
ctgaataccc gnnagaaaag gtgccacagc anttagcttn tctcctgctt gcaagatgtc 300
tggcaatngc aatcattttt tgcacttant acgatgnaca ncngtaaaga aatcgnattt 360
ttntatgccg tcataacttt acgtatgtan cactttttgc nattcnaaaa aagaccattn 420
gctncaacac gtaaattna ttgncccnna catttanaac ataaatgntt aaaattttcc 480
cccnncnnan ttttaagntn ttnanagaat ngggaattac ctgcttttna atgnactcan 540
anttttttng naataattcc tntatcnaan ctntttttcn cccaanagnc nnccaaattn 600
cggtttntn nttnncnng cnttttttta cccnanaann tttattcaan nccttttttg 660
tagntatatt naagngnct ttnttnnatt aactttccnn ttggncaaatt tttggcnnat 720
ttttatatan aattntctta tntcntaatt tnggnanccc cngatgnaan tttatggngg 780
gantcccnnt ccctntttaa tnnatgntct gggntatatt taaancctnn attaanannan 840
c 841

<210> 43
<211> 215
<212> DNA
<213> E. Coli

<400> 43
aataactttt cgtaggcag ttttgggtgt gagttgcaag aggggagact actgaataac 60
tcaagtttta taatcgagg gaaaatgggt atggcggtta tagcaaaacg ccctcaacca 120
taaaggctga gggcgcttaa gatgttaaaa acccgctatc cgtaaaaaaa caatgttcaa 180
ctaaggctcag tgacattgct ctaaaaaagc gaatt 215

<210> 44
<211> 395
<212> DNA
<213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(395)
 <223> n = A,T,C or G

<400> 44
 gcattattca tgagaaatgt gtatcgtaaa tcaactgaaa ttaacgcaac catttgttat 60
 ttaaggttta attatctgtg tgtgatattt tattgaatgt tttaaatatt gtttttattg 120
 gcattgctat aatattgggt atcatttgct gaatggattc agtcttaatg agtggggttt 180
 taaggacag gcatagagta atgatacgta tgcataacca acatctttac tcattatgtc 240
 attgaatgtt gaccctatgt gtttatgaag gagaggtatt ttcagttgat ctggattgnt 300
 aaattcatat aatgcgcctt tgctcatgaa tggatgccag tatgtagtgg gaaattataa 360
 atattgaaat agtccaacta cttctttatt accaa 395

<210> 45
 <211> 883
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(883)
 <223> n = A,T,C or G

<400> 45
 ataatcaggt aagaaaaggt ggcgcggagat taccgtgtgt tgcgatatat tttttagttt 60
 cgcggtggcaa tacatcagtg gcaataaaaac gacatatcca gaaaaatata cactaagtga 120
 atgatatctt ccgatttatc ttaatcgttt atggataacg gcaaagggtc tcgttttttc 180
 ctatacttat tcagcactca caaataaagg aacgccaatg aaaattatac tctgggctgt 240
 attgattatt ttcctgattg ggctactggg ggtgactggc gtatttaaga tgatatttta 300
 aaattaatta atgtcatcag gtccgaaaat aacgagaata tttcagtctc tcacccctgtt 360
 gcgctcctgt catgtgcatt gcttcatata atcactggcg caaggagcgc cgcaggcgna 420
 gnntgcncgn cgnccacct naccatgc cgaacttcag aantgaaaac nccntaacnc 480
 cgatngtcgg cggngcctc cccatgcnan agtangggaa ntgccangcg ncnntataaa 540
 cgaaaggctn attncaaaga ctgggccttn cntttatctg atgtttgtcg gagaacgctc 600
 tcttgagnan gacaaatncc gccgggagcg gatttgaacn ttgcgaagca accgncnna 660
 agggngnngt cntgacnccc nnctctant nnngccttc ttttgcttna angncctcct 720
 ancngatggc ctttttngcc ntctaccaa cnntttggtt aatgctnta aaanccttct 780
 canntncaa tccngtnntn cccatccnnn tnttgaaagn ntncctnccn tgtncantnt 840
 anntnngggg gnnngnggcc ggcggncccc ccccccccc ccc 883

<210> 46
 <211> 1024
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(1024)
 <223> n = A,T,C or G

<400> 46
 gtttatggat aacggcaaaag ggcttcgttt tttcctatac ttattcagca ctcacaaata 60
 aaggaacgcc aatgaaaatt atactctggg ctgtattgat tattttcctg attgggctac 120
 tgggtggtgac tggcgtatct aagatgatat tttaaaatta attaattgtca tcagggtccga 180
 aaataacgag aatatttcag tctctcatcc tgttgcgctc ctgtcatgtg cattgcttca 240

tataatcact	ggcgcaagga	gcgcgcagag	tntccnant	nnnnntnntt	ntntnctnn	300
nccttcacna	tncnccncn	nantnnatag	nncccnntn	ttnttcnnnn	gnccnctcc	360
nnncnnnnnn	ncatnnnate	ccactnnntt	tntccannn	nnncnnntn	cannccnaaa	420
antncnaccn	anntnacctt	atacnnannc	nancnnnnnn	nnccactctn	netcgnnctc	480
cccnttcnac	nnccannnnn	cancnntcnn	ctnnnnccct	nnentaattn	ttctnnctan	540
ntectanccn	cnnacnnncc	cancnatccn	nnnatacant	cnattntntn	cnntcncntn	600
cncnnttcc	nnctnnncnc	tnccncatnc	ccnnnannan	canntncccc	ncctnccctna	660
ccnccnccnc	ccnccatccc	nncccnnt	ccnnantnga	caannnnaat	cncnnnnncn	720
nnnnnnnnnn	tnnnccccc	gcncnccnt	ncntcacnc	tnnnccncta	nannnnntac	780
nntnaccnnt	cctnnccacnc	tnccctnnng	antccnacna	ntnnnnnanc	nanaacnctn	840
tnnnnccata	atcccacacc	acncccntnc	ancntntnt	ncntcntccc	ttcntatcnc	900
agctnnnnnt	ncntntnnnc	tnccncccn	cnnactncnn	nnaccnccnn	cccantcagt	960
ccacntccn	cnnccnnntn	nnncnancan	ctnnccacnc	cnantaacct	nntnncacct	1020
tccc						1024

<210> 47
 <211> 236
 <212> DNA
 <213> E. Coli

<400> 47						
atatacacta	agtgaatgat	atcttccgat	ttatcttaat	cgtttatgga	taacggcaaaa	60
gggcttcgtt	ttttcctata	cttattcagc	actcaciaat	aaaggaacgc	caatgaaaat	120
tatactctgg	gctgtattga	ttattttcc	gattgggcta	ctgggtggtga	ctggcgtatt	180
taagatgata	ttttaaaatt	aattaatgtc	atcaggtccg	aaaataacga	gaatat	236

<210> 48
 <211> 418
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(418)
 <223> n = A,T,C or G

<400> 48						
cggagattac	cgtgtgttgc	gatataat	ttagtttcgc	gtggcaatac	atcagtgga	60
ataaaacgac	atatccagaa	aaatatacac	taagtgaatg	atatcttccg	attnatctta	120
ntcgtttatg	gataacggca	aagggcttcg	tttttcccta	tacttattca	gcactcacia	180
ataaaggaac	gccaatgaaa	attatactct	gggctgtatt	gattattttc	ctgattgggc	240
tactggtggt	gactggcgta	tttaagatga	tattttaaaa	ttaattaatg	tcatcaggtc	300
cgaaaataac	gagaatat	cagtctctca	tcctgttgcg	ctcctgtcat	gtgcattgct	360
tcatataatc	actggcgcaa	ggagcgcgca	nggggcggcc	aatcgccgcc	ggcccctg	418

<210> 49
 <211> 550
 <212> DNA
 <213> E. Coli

<400> 49						
ctgctagtta	caggggaacac	taatgacaga	cagctaaaag	ccctgtttta	ttacgtatta	60
caaacagggg	atgccagcg	ttttcgtgca	tttattggtg	agatagcgga	acgcgcacca	120
caagaaaagg	agaaactgat	gaccattgct	gacagattac	gtgaagaagg	cgcaatgcag	180
ggcaaacacg	aagaagccct	gcgtattgct	caggagatgc	tggatagagg	tttagacaga	240
gagttagtta	tgatggtgac	ccgactttca	ccagacgatc	ttatcgcgca	aagccactaa	300
tcctgtaaca	ccgggaggtta	actggcggat	gtttgctgta	aaccacatca	gcgaacgaca	360

tccgccagcg	cctcttctaa	atcgtaggag	cgaaacgcaa	aacccgcttc	ttccagccgt	420
ttaggcagcg	cgcggtgtcc	acctaatacc	agtactgaag	attcgcccat	taacagtcga	480
atggcggtcg	cggggacgcg	caaaatggcc	gggcgatgca	gcgcgatgacc	gagcgcatgg	540
gcaaattggt						550

<210> 50
 <211> 99
 <212> DNA
 <213> E. Coli

<400> 50						
ttggcatctc	ggtgttgccg	atcttcatga	tatccagccc	gccggaaact	tcttcccaaa	60
cggttttgct	ggtatccatt	gagtcacgga	actgccct			99

<210> 51
 <211> 259
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(259)
 <223> n = A,T,C or G

<400> 51						
ccgtgccgag	atgatcctgt	naccatcatc	cgttgtgaag	tagtgattca	cgacttcaag	60
gcgcttttca	aaaggggtatt	ttggctttga	catattaggg	gctattccat	ttcatcgnc	120
aacaaaatgg	gtgcagtaca	tactcnttgg	aaatcaacac	aggaggctgg	gaatgccgca	180
gaaatataga	ttactttctt	taatagtgat	ntgtttcacg	cttttatttt	tnaaanaagt	240
tnggcttact	tcccggggn					259

<210> 52
 <211> 877
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(877)
 <223> n = A,T,C or G

<400> 52						
cagcagagcg	cgcccttctt	cgtagatttt	cgtagtagtg	gtaatggtaa	tatccaaacc	60
acgaacgcgg	tcgactttat	cgtagtcgat	ttctgggaag	atgatctgct	cacggacacc	120
catgctgtag	ttaccacgac	cgtagaaaga	cttagcggac	aggccacgga	agtcacggat	180
acgaggtaca	gcaatagtga	tcaggcgctc	aaagaactcc	cacatgcgtt	cgccacgcag	240
agttacttta	cagccgatcg	gatagccctg	acggattttg	aagcctgcaa	cagatttgcg	300
tgctttggtg	atcagcggtt	tttgaccgga	gattgctgcc	aggtctgctg	ctgcgttatc	360
cagcagtttt	ttgtcagcga	tcgcttcacc	aacacccatg	ttcagggtga	tcttctcgac	420
ccgagggact	tgcatgacag	aattgtagtt	aaactcagtc	atgagttttt	taactacttc	480
gtctttgtag	taatcatgca	gtttcgccat	cgtactactc	catgtcgggtg	aacgctctcc	540
tgagtaggac	aaatccgccc	ggagcggatt	tgaacgttgc	gaagcaacgg	cccggagggt	600
ggcgggcagg	acgcccgcga	taaactgcca	ggcatcaa	taagcagaag	gccatcctga	660
cggatggcct	ttttgcgttt	ctacaaaactc	ttttgggttat	ttttctaaat	cattcaaata	720
tgtatccgnt	catcccatcc	tatcgatgat	aagctgtcaa	acatgagaat	ttaatcaatc	780
taaagtttta	tgnggttaaa	cttgggctgg	cagnttncca	atggcttaat	cagtnagagg	840
ccctatntta	acgaactngg	ctantttngg	tcaatcn			877

<210> 53
 <211> 291
 <212> DNA
 <213> E. Coli

<400> 53
 tgaacagcag agatacggcc agtgcggcca atgttttttg tcctttaaac ataacagagt 60
 cctttaagga tatagaatag gggatatagct acgccagaat atcgtatttg attattgcta 120
 gtttttagtt ttgcttaaaa atattgtag ttttattaaa tgcaaaacta aattattgggt 180
 atcatgaatt tgttgtaga tgaataaaa ataggggggt atagatagac gtcattttca 240
 taggggtata aatgcgacta ccatgaagtt ttttaattgaa agtattgggt t 291

<210> 54
 <211> 282
 <212> DNA
 <213> E. Coli

<400> 54
 ttattaaatg caaaactaaa ttattggtat catgaatttg ttgtatgatg aataaaatat 60
 aggggggtat agatagacgt cattttcata ggggtataaa tgcgactacc atgaagtttt 120
 taattgaaag tattgggttg ctgataattt gagctgttct attcttttta aatatctata 180
 taggtctgtt aatggatttt atttttacaa ttttttgtt ttaggcatat aaaaatcaac 240
 ccgccatatg aacggcgggt taaaatattt acaacttagc aa 282

<210> 55
 <211> 293
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(293)
 <223> n = A,T,C or G

<400> 55
 cggggtccgg cgctcatcaa caatcggggg gcagcaagg gctgaaacgg gaaagcccct 60
 cccgaagaag gggccttgta taaggaaagg gttatgatga agctcgtcat catactggtt 120
 gtgtngttac tgtaagttt cccgacttac taaccaactca tcagaggggg gagaaatcct 180
 cccttaccct tggtccctta ctctagggtt aaaaaacaac agcgtcaata ggcctgccat 240
 gtacgaagcg agatctgtga accgctttcc ggtagcctt ttttatcctg ttg 293

<210> 56
 <211> 300
 <212> DNA
 <213> E. Coli

<400> 56
 tctgcgttcc gctaaaagg gcaaatgctc aggacgttgc agcgttttgc gtgaccgctc 60
 ggggaaggca aaattgcctc tgggaaagca ttgcgcgggg tccggcgctc atcaacaatc 120
 ggggggcagc aaggggctga aacgggaaag cccctcccga agaaggggcc ttgtataagg 180
 aaagggttat gatgaagctc gtcatacatc tggttggtt gttactgtta agtttcccga 240
 cttactaaca actcatcaga ggggggagaa atcctccctt acccttgctt ctttactcta 300

<210> 57
 <211> 359
 <212> DNA

<213> E. Coli

<400> 57

caacacagga	ggctgggaat	gccgcagaaa	tatagattac	tttctttaat	agtgatttgt	60
ttcacgcttt	tattttttcac	ctggatgata	agagattcac	tgtgtgaatt	gcatattaaa	120
caggagagtt	atgagctggc	ggcgttttta	gcctgcaaat	tgaaagagta	agagtcttcg	180
gcgggaaatt	attcccgcct	tacttacggc	gttgcgcat	ctcattgcac	ccaaatttat	240
tcttcacaaa	aataataata	gattttatta	cgcgatcgat	tatttatttc	ctgaaaacaa	300
ataaaaaaat	ccccgccaaa	tggcagggat	cttagattct	gtgcttttaa	gcagagatt	359

<210> 58

<211> 700

<212> DNA

<213> E. Coli

<220>

<221> misc_feature

<222> (1)...(700)

<223> n = A,T,C or G

<400> 58

aaaccttttt	ctcctgtttt	tcatagaggg	caacccatgt	cctgacctgg	gttcggggga	60
cacaaaaacg	tgccgagatg	atcctgtaac	catcatcagt	tgtgaagtag	tgattcacga	120
cttcaaggcg	cttttcaaaa	gggtattttg	gctttgacat	attaggggct	attccatttc	180
atcgtccaac	aaaatgggtg	cagtacatac	tcgttggaat	tcaacacagg	aggctgggaa	240
tgccgcagaa	atatagatta	ctttctttta	tagtgatttg	tttcacgctt	ttatttttca	300
cctggatgat	aagagattca	ctgtgtgaat	tgcatattaa	acaggagagt	tatgagctgg	360
cggcgttttt	agcctgcaaa	ttgaaagagt	aagagtcttc	ggcgggaaat	tattcccgcc	420
ttacttacgg	cggtgcgcat	tctcattgca	cccaaattta	ttcttcacaa	aaataataat	480
agatttttatt	acgcgatcga	ttattttatt	cctgaaaaca	aataanaaaa	tccccgccaa	540
atggcaggga	tcttagattc	tgtgctttta	agcagagatt	acaggctggg	tacgttacca	600
gctgccgggc	ctttaacgcc	gctttcgatg	gtgaaggaca	ctttctgacc	ttcgtccaga	660
gattgtaacc	atcgggtctg	atagccnaga	aatgtccaac			700

<210> 59

<211> 631

<212> DNA

<213> E. Coli

<220>

<221> misc_feature

<222> (1)...(631)

<223> n = A,T,C or G

<400> 59

tggtggcatt	ggttgctgga	gagagaaaaa	ccccgcacgt	tgcaggatat	cacctgacaa	60
caccacgggg	gctaattctt	actctagacc	actcaagaat	agccgcgaaa	cgttgtcatt	120
acaacacagg	cggtatatat	acgttcgcag	agctgggcat	ggccttcttg	catgatttag	180
cggtctccgt	cattgctggc	attcttgcca	gtatgatcgt	gaactggctg	aacaagcgga	240
agtaacgtgt	catgcggggc	tcaggctgcc	gtaatggcaa	tttgcgccc	gaccaggccg	300
caggggggaa	actctgcggc	ctttttcggt	cttactgcgg	gtaaggcacc	cagtcgccgc	360
cgttcaggcg	aacgtacggg	ttatcctggg	attgaataac	tactgcattt	gagttctcgg	420
agaccgggtg	tgtttgtggc	aacccactgg	tgagtttttt	ccagtcaaca	ttgtcttcgg	480
tgaaaatctt	gccatcgaga	acgcgaacca	ccagatcgga	gatagccagg	aagctgctcg	540
gttggtcgat	gacaatcggg	gccccctgat	gcgggtgcct	catgccgaag	aatttcaccc	600
caacggggac	gtcngtgata	gaccgggcta	g			631

<210> 60
 <211> 648
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(648)
 <223> n = A,T,C or G

```

<400> 60
ggctcaggcn tgctgattgt ttttttgtgc aatggcceng tattagcgtc gttgctgtcg      60
atggagagaa tcataaacgt ggtgaatgat gattgttagc aaggaaaact gtcaaaaatc      120
ttcaaaaaat ttgagggata aggccggaat ggctccggcc agagggaagt taaccgcgaa      180
gctgttgctg cttgagggtc gttttaacca gacgccaggc gctccatacg ccaaaaccgc      240
gtctggccca gcggaccagc atattaggat ggcgaaatcgt ccagatcgcc atcacgctac      300
tgccaaccag cgcccaggag cgacagactta gcagcatatt ccancgacga tcgtaagcgc      360
ctgttgcttc cagccattca cgacgactgg cggaagggnc cgcgctgac caacttgct      420
tttagtctga tncanattan attnataaac gcagnanncn ggtntgatta atcntatttn      480
gctctngtct ggtagttagc nncggnnngt ctctnttna cccnnttcnn tttannttac      540
natnngtaan ttatntttnt nngtctnant tntanttgng tactntaagt ntatnecgnn      600
atnntnnnan nnnncagnnc ntntttttta aatnntttnt nanncnnc      648
  
```

<210> 61
 <211> 737
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(737)
 <223> n = A,T,C or G

```

<400> 61
tgctaataatc tttctcattg agatgaaaat taaggtaagc gaggaaacac accacaccat      60
aaacggaggc aaataatgct gggtaatatg aatgttttta tggccgtact gggaataatt      120
ttattttctg gttttctggc cgcgtatttc agccacaaat gggatgacta atgaacggag      180
ataatccctc acctaaccgg ccccttggtta cagttgtgta caaggggcct gatttttatg      240
acggcgaaaa aaaaccgcca gtaaaccggc ggtgaatgct tgcattggata gatttgtgtt      300
ttgcttttac gctaacaggc attttcctgc actgataacg aatcgttgac acagtagcat      360
cagttttctc aatgaatgtt aaacggagct taaactcggc taatcacatt ttgttcgtca      420
ataaacatgc agcgatttct tccggtttgc ttacctcat acattgcccg gtccgctctt      480
ccaatgacca catccagagg ctcttcagga aatgcgcgac tcacacctgc tgcacggta      540
atgttgatat gcccttcaga atgtgtgatg gcatgggtat cgactaactg gcaaattctg      600
acacctgcac gacatgcttc ttcatcatta gccgctttga caataatgat aaattcttcg      660
cccccgtagc gataaaccgt ttcgtaatna cgcgtccaac tgggntaagt aaagttgcca      720
gggtgccgta atcttac                                     737
  
```

<210> 62
 <211> 648
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(648)
 <223> n = A,T,C or G

```

<400> 62
tgcttttgaa tatgtgctcg caatcttgag aaggaaatgg cgaccacgaa agaaaaggca      60
aaaaccgata atctgaaaga acccaagtat ttcagtataa gcattgaatg ccgaccagta      120
aactcttttcg gattcaccga gaaagtgaan ccaaaatgat aatcgtatac ataagtcttt      180
cgagtggctc gttagcaaaa agtttcaaca atggagtaaa tacatccaac atatcaataa      240
ctctcaactg taaggggatt gaaatggtaa cccagctctc tcgcttgagg ggtatagccg      300
agaccaccga agccccggag gtggtgaaat aaaaccgggc acaacacgaa agggcgcatt      360
tccgatatcc ataaaagaag tcgggtcttt gtctggtaaa attaaattgg tgggaagtgc      420
gcctccgggt tgtaaatacc gactttgctg ggtgtagcct ggcggcatca agtttttttc      480
tggaagtctg ctgatgtccg ccttttttaa agggaatttt ggtgatgccg gtgaatgccg      540
cttaaccccc cgtgggcccc gttaaaagtc atggtaagnc ctaatnggtt tggggtgagg      600
aaagccnact gnnaattggt tacctggttt gcaagtancc ctggaagg      648

```

```

<210> 63
<211> 237
<212> DNA
<213> E. Coli

```

```

<220>
<221> misc_feature
<222> (1)...(237)
<223> n = A,T,C or G

```

```

<400> 63
ggtgtttant tacaagagat tcactcttgt ntaaancccn gataagtaat tacgcataaa      60
acaacaatga ttataatagc aaaaataaat attatcatct ttgatagatt acttgagata      120
gccagcatct tgtaaagcct ttatcgtttt tttatgctct ggattaatat aatcactaca      180
tctatctgag caatctgttg ttgatggaca tgtcaacca tggtcattta cagccaa      237

```

```

<210> 64
<211> 427
<212> DNA
<213> E. Coli

```

```

<400> 64
gataattaga gtttgtcgtc agaaaattga cgttacccat aacaaatgaa aggccaggta      60
aatcatgccca ttagtcattg ttgctatcgg tgtaatcttg ttgttgctcc tgatgatccg      120
cttcaaaaatg aacggcttca tcgctctcgt cctcgtggcg cttgctgttg gattaatgca      180
aggaatgccg ctggataaag ttattggctc catcaaagcc ggtgtcggcg ggacgctcgg      240
tagccttgcc ctgatcatgg gttttggcgc aatgctgggc aaaatgctgg cagactgcgg      300
tggcgacaaa cgtatcgcca ccacgctgat tgccaaattt ggtaaaaaaac acatccagtg      360
ggcggtggtg ctgaccggtt ttaccgttgg ttttgccctg ttctatgaag tgggctttgt      420
gctgatg      427

```

```

<210> 65
<211> 261
<212> DNA
<213> E. Coli

```

```

<220>
<221> misc_feature
<222> (1)...(261)
<223> n = A,T,C or G

```

```

<400> 65
caaagaacct tcaacatgaa aaatatccat ttgtttgcaa aaaaagatta ttaggaagga      60

```

aattaatgca attatcgaaa attcaaaaaa tatccaaaaa tngtatactt tattccagaa	120
gagttcaata taatgtttgt cttcaatfff tcttacttca gggtaatata gattgctcat	180
tacattgtga gcttcatctt tatttaatff tctgttgact ccagctctcc gtgataacgg	240
ttttataatt agatgcttat c	261

<210> 66
 <211> 98
 <212> DNA
 <213> E. Coli

<400> 66	
agatgattgc cgggaacttg ttagcggcac gcaggcggcg gctcgcaccc ttaccctgct	60
ctttacgtac ttctgcgttg atagtaaaca tttctttc	98

<210> 67
 <211> 260
 <212> DNA
 <213> E. Coli

<400> 67	
aagcgcgaac gaagtcgatg tgctgcagct tcggtttgta cgggtgacgc tgtacgtcct	60
gagctttaac tttgatttct ttaccgtcaa caacgatggc cagaacttcg ctgtagaatt	120
cagcttttagc ttgcatgttc atgactttgt cgtgatccag ctcgatagcc agcggcgctt	180
ctttgccacc gtagatgatt gccgggaact tgtttagcggc acgcaggcgg cggctcgcac	240
ccttaccctg ctctttacgt	260

<210> 68
 <211> 95
 <212> DNA
 <213> E. Coli

<400> 68	
aaaaacggcg taaagaaagg ttgcaaacat gttaataaaa actcaaattg atcccacgta	60
tatattacgc cgcaaaatcc ttacaataaa caggg	95

<210> 69
 <211> 174
 <212> DNA
 <213> E. Coli

<400> 69	
ttaattatta aaatagtgtg acgcgattat gtggttatgg gggtaaacad taaataaacc	60
agcggggagg ggaggtaaag tgaaaaaata aaaagcggat aatcttaata agcaggccgg	120
acagcatcgc catccggcac tgatacaggg tttatttcag ctcatcaacc atcg	174

<210> 70
 <211> 138
 <212> DNA
 <213> E. Coli

<400> 70	
agtctgtaaa aacgtcaaaa agagtgtttt atcaacagaa gaatggaggc ctgacagata	60
gtagtaatgc aaaaaaatgg agacttaagt tgaatgaacg ggagtaaagc gaaaagacta	120
tagagtgaag gagaaatt	138

<210> 71
 <211> 191

<212> DNA
 <213> E. Coli

<400> 71
 tttgttggct taatattcta ttgttatctt tatttataga tgtttatatt gcatgaggtg 60
 gtttttggag agaagaatga ggaagatgcg tcgagccaca gaaacgttag ctttacatat 120
 agcggaggtg atgtgaattt aatttacaat agaaataatt tacatatcaa acagtttagat 180
 gctttttgtc g 191

<210> 72
 <211> 244
 <212> DNA
 <213> E. Coli

<400> 72
 ggccatttat acaggaaaag cctatgtcag aacgtaaaaa ctcaaaatca cgccgtaatt 60
 atctcgttaa atgttcctgc ccaaactgca cccaagagtc agaacacagt ttttcaagag 120
 tacaaaaagg tgcccttttg atctgccctc attgcaacaa agtattccag acaaacttta 180
 aagctgtagc ctgattgatt ttattagtaa caagtatttt ttatatatta ataatatatt 240
 taaa 244

<210> 73
 <211> 327
 <212> DNA
 <213> E. Coli

<220>
 <221> misc_feature
 <222> (1)...(327)
 <223> n = A,T,C or G

<400> 73
 aaattttcag gtaccttgtc accatacttt tttttctgag cattaatgat attttgagct 60
 tcttgaggat ctttaactcc ccacatttgg tggaaagtat tcatattaaa aggaaggntg 120
 aataatttgn ctttataaat cgccagtgga gaattagtaa aacgattaaa ttctactaaa 180
 tnattaaccg naaaaaaatt cccatatata tttatcattg gtatgaaaaa tatgtgcacc 240
 atattttatga atntggatac cctnacagtc ctctgtgtac gcatttccac cgatatgatt 300
 tcttttctna atcactaaaa ctttttt 327

<210> 74
 <211> 150
 <212> DNA
 <213> E. Coli

<400> 74
 gcagtgatcg aagcgatgac gaagtgtatg gaaaaatcag aaaaactcag caaatcctga 60
 tgactttcgc cggacgtcag gccgccactt cgggtgcggtt acgtccgggtt ttctttgctt 120
 tgtaaagcgc caaatctgcc gatttcaacc 150

<210> 75
 <211> 330
 <212> DNA
 <213> E. Coli

<400> 75
 gaaagtatct tcgttattga catcactgga aaatataact tgcttttcat tattaaactc 60
 gaagcgcgta ccgtatctgg acaaacattt atcgagctta ccaaattcct gaagagggtt 120

aactacagat	aacatttgcg	cgtcctttgc	agtaatgccc	gtcaaatacct	tgacggggcat	180
tatttagatt	aaattaccag	tattttcttcg	gagtgaagaa	tattaccagg	tatatttaac	240
acccacgttc	gcggaccagt	cttgatctac	gtcaccacca	ccgaggtagt	tagcatcggt	300
ataggcgctg	aagttcttgg	tgaagctaaa				330

<210> 76

<211> 194

<212> DNA

<213> E. Coli

<400> 76

tgttttttttc	cagcaacgga	gcaaaagggt	tgcccttgtg	cagctcaggg	ttaaccactt	60
taactacgtg	gcgacgaccc	ggagatgtcg	gtttacattt	aacaactgcc	attgtattac	120
tcctccgact	tactcagcgc	cgccaacgaa	gtccagattc	tggccttctt	tcagggtgac	180
gtaagctttt	ttcc					194

<210> 77

<211> 188

<212> DNA

<213> E. Coli

<400> 77

tccctttaac	taccaggggtg	ttaacgactt	cgacttcgac	ttcaaacagt	ttctgcacag	60
cagctttgat	ttctgctttg	gtcgcgtctt	tagcaacttt	gagtactatg	gtgttggtg	120
tttccatcgc	agtagacgct	ttttcagaaa	cgtgcggtgc	acgcagcacc	ttcagcagac	180
gttctttca						188

<210> 78

<211> 173

<212> DNA

<213> E. Coli

<400> 78

acaaaggcga	acaaagcctg	tgaagcccga	aggctccaca	gacagtgcta	cttgaaggcc	60
ttactgtttc	ttcttaggag	cgagcaccat	gatcatctgg	cggccttcga	tcttggttgg	120
gaaggattcg	accactgcc	gttcttgcaa	atcgtctttc	acgcgattaa	gca	173

<210> 79

<211> 272

<212> DNA

<213> E. Coli

<220>

<221> misc_feature

<222> (1)...(272)

<223> n = A,T,C or G

<400> 79

tggagaaaac	gggtgattga	taaagcaatc	atcgttctag	gggcgttaat	tgcgctgctg	60
gaactgatcc	cgctttctgc	tt'caagcttc	tgaactggat	acggaaacgt	aatnagggct	120
aaagaagaca	ctactcttag	ccctttaaca	tttaacgcat	tgtcacgaac	tcttctgccg	180
ccgttgggtg	aatggcgacg	ggtattggtc	gaaatctttt	ttgggtggcc	ccatctttaa	240
cgcccacccg	cgaaaccctg	caacatttcg	tc			272

<210> 80

<211> 259

<212> DNA

<213> E. Coli

<400> 80

cgcaggcagc	tgatgggtcaa	caggatgaga	gaaaccacaga	gacagggttaa	tcacattgcc	60
tttaaccgct	gcacggtaac	ctacaccaac	cagctgcagc	ttcttagtga	agccttcggt	120
aacaccgata	accattgagt	tcagcagggc	acgcgcggta	ccagcctgtg	cccaaccgtc	180
tgcgtaacca	tcacgcggac	cgaagggtcag	ggtattatct	gcatgtttaa	cttcaacagc	240
atcggttgaga	gtacgagtc					259

<210> 81

<211> 73

<212> DNA

<213> E. Coli

<400> 81

caggctcgga	cttaccgcag	aaggaatttc	gctaccttag	gaccgttata	gttacggccg	60
ccgtttaccg	ggg					73

<210> 82

<211> 666

<212> DNA

<213> E. Coli

<400> 82

atgaacgttt	tctcgcaaac	tcaacgctat	aaggcggtgt	tctggttatc	gttatttcat	60
ctgctgggtga	tcacctccag	taactatctg	gttcagcttc	ccgtctccat	tttgggtttc	120
cataccacct	ggggcgcggt	tagctttccg	tttatttttc	ttgctaccga	cctgaccgtg	180
cgtattttttg	gcgcaccgct	ggcccgacgc	attatcttcg	cggtaatgat	ccctgcgtta	240
ttaatctcct	acgtcatctc	gtcgtatttc	tatatgggtt	cctggcaggg	attcggcgca	300
ctcgcccaact	tcaacctgtt	tgtcgcccg	atcgccaccg	ccagtttcat	ggcctacgcg	360
ctggggcaaaa	tcctcgacgt	gcacgttttt	aaccgcctgc	gtcagagtcg	ccgctgggtg	420
ctggcaccga	cagcgctccac	actgttcggt	aacgtcagcg	acacgctggc	ctttttcttc	480
attgccttct	ggcgtagccc	ggatgccttt	atggctgaac	actggatgga	aatcgcgctg	540
gtcgattact	gtttcaaagt	gttaatcagt	atcgttttct	tcctgccaat	gtatggcgta	600
ttactcaata	tgctgttgaa	aagactggca	gataaatccg	aatcaacgc	tttgcaggcg	660
agttaa						666

<210> 83

<211> 612

<212> DNA

<213> E. Coli

<400> 83

gtgataagat	ggatgaatga	gccgttatgg	ccgtttatcg	aaaggaagaa	gtcaatgcgc	60
aatctgggtta	aatatgtcgg	aattggcctg	ctggttatgg	ggcttgcggc	ctgtgatgat	120
aaagacacta	acgctacggc	gcagggttcg	gtcgcggaaa	gtaacgctac	cggaatccc	180
gtcaacctgc	ttgatggcaa	gttaagtctc	tcgctgccag	cggatatgac	cgaccagagc	240
ggtaagctgg	gaacgcaggc	caataacatg	catgtctggt	ccgacgccac	cgggcagaaa	300
gcagtcacgc	tcacatggg	cgatgatccg	aaagaagatc	tggcggtgct	ggcgaagcgt	360
ctggaagatc	agcaacgtag	ccgcgatccg	cagctgcaag	tggttaacaa	ttaaagccatt	420
gagctgaaaag	gtcacaaaat	gcagcagtta	gacagtatta	tctccgcgaa	aggccagacg	480
gcgtactctt	ccgttattct	gggtaacgtg	ggtaatcaac	tgctgaccat	gcaaattacg	540
ctgcccgcgtg	acgatcagca	aaaagcgcag	accaccgcag	aaaacatcat	taatacgcgtg	600
gttattcagt	aa					612

<210> 84

<211> 975

<212> DNA
<213> E. Coli

<400> 84

atggcggaata	tgttttgcctt	gattcttggtg	attgccacac	tgggtgacggg	catttttatgg	60
tgcggtggata	aattctttttt	cgcacctaaa	cggcggggaac	gtcaggcagc	ggcgagggcg	120
gctgccgggg	actcactgga	taaagcaacg	ttgaaaaagg	ttgcgccgaa	gcctggctgg	180
ctggaaaccg	gtgcttctgt	ttttccggta	ctggctatcg	tattgattgt	gcgttcgttt	240
atztatgaac	cgttccagat	cccgtcaggt	tcgatgatgc	cgactctgtt	aattggtgat	300
tttattctgg	tagagaagtt	tgcttatggc	attaaagatc	ctatctacca	gaaaacgctg	360
atcgaaaccg	gtcatccgaa	acgcggcgat	atcgtggtct	ttaaatatcc	ggaagatcca	420
aagcttgatt	acatcaagcg	cgcggtgggt	ttaccgggcg	ataaagtcac	ttacgatccg	480
gtctcaaaag	agctgacgat	tcaaccggga	tgcagttccg	gccaggcggtg	tgaaaacgcg	540
ctgccgggtca	cctactcaaa	cgtggaaccg	agcgatttccg	ttcagacctt	ctcacgccgt	600
aatggtgggg	aagcgaccag	cggattcttt	gaagtgccga	aaaacgaaac	caaagaaaat	660
ggaattcgtc	tttccgagcg	taaagagaca	ctgggtgatg	tgacgcaccg	cattctgaca	720
gtgccgattg	cgcaggatca	ggtggggatg	tattaccagc	agccagggca	acaactggca	780
acctggattg	ttcctccggg	acaatacttc	atgatgggcg	acaaccgcga	caacagcgcg	840
gacagccgtt	actggggcct	tgtgccggaa	gcgaatctgg	tcggtcgggc	aacggctatc	900
tggtatgagct	tcgataagca	agaaggcgaa	tggccgactg	gtctgcgctt	aagtcgcatt	960
ggcgcatcc	attaa					975

<210> 85
<211> 1761
<212> DNA
<213> E. Coli

<400> 85

ttgaccatta	cgaaacttgc	atggcgtgac	ctggttctctg	ataccgatag	ctatcaggaa	60
atatttgctc	agccacattt	gattgacgaa	aacgatcctt	tattcagtga	tactcaaccg	120
cggctgcaat	ttgcgctgga	gcagttgctg	catacgcgag	catcctcctc	ttttatgctg	180
gcgaaggccc	cggaagagtc	tgagtatctg	aatcttattg	ccaatgccgc	gcgtacgcta	240
caaagcgatg	caggccaact	ggtgggcggt	cactatgagg	tttccggcca	ctccatccgc	300
ttacgtcacg	cagtgaagtgc	agatgataat	tttgcgactt	taacgcaagt	tgctgctgcc	360
gactgggtag	aagcggagca	actctttggc	tgctgcgcc	agtttaatgg	cgacattacc	420
ctgcagcctg	gtctggtgca	tcaggcaaat	ggcggtattc	tcattatctc	tttgcgta	480
ctgctggcgc	aacctctgct	gtggatgcgg	ctgaaaaata	tcgttaaccg	cgagcgtttt	540
gactgggttg	cgtttgatga	gtcgcgccct	ctccccgtct	ctgtgccttc	gatgccattg	600
aagctgaaag	tcattctggg	aggcgaacgc	gaatcattgg	ctgatttcca	ggagatggag	660
ccagagcttt	cagagcaggc	tatttatagc	gaatttgaag	atactctgca	gattgtcgat	720
gcggagtcag	taaccacgtg	gtgtcgctgg	gtgacattta	ccgccagaca	taatcactta	780
cctgcaccgg	gagcggatgc	ctggccgata	cttatccgcg	aagcagcacg	ctacaccggt	840
gaacaagaaa	cacttccgct	tagcccgag	tggatcctcc	gccagtgtaa	agaggctgcc	900
tccctgtgtg	atggcgacac	cttctccggc	gagcagctaa	acttaatgct	gcagcagcgt	960
gaatggcgcg	aaggtttcc	cgctgaacgt	atgcaggatg	agatccttca	ggagcaaate	1020
ctgattgaaa	ccgaaggcga	acgcacgcgg	caaattaacg	cccttccggt	cattgaattt	1080
ccgggtcatc	caecgcgttt	tggcgaaact	tctcgcatta	gctgcgttgt	gcatattggc	1140
gatggtgaat	tcaccgacat	cgaacgcaaa	gcggagcttg	gcggcaatat	ccatgcgaaa	1200
gggatgatga	tcattgcaagc	gttctctgatg	tcggaactac	agcttgagca	acagatcccc	1260
ttctcagcat	cgctgacatt	tgagcagtca	tacagtgaag	ttgatggaga	tagtgccctcg	1320
atggctgaac	tctgcgccct	gataagcgcc	ctcgccgatg	tgccgggtgaa	tcagagtatc	1380
gctatcacag	gttcagtcga	tcagttccgg	cgcgcccgagc	cggtcgggtgg	tttaaatgag	1440
aaaatcgaag	gcttctttgc	tatttgccag	caacgtgagt	taaccgggaa	acaagggtgc	1500
attatcccca	cagctaacgt	tcgccattta	agtcttcaca	gtgaactggg	gaaagcggtta	1560
gaagaaggca	aattcaccat	ctgggcagta	gacgatgtga	ctgacgcact	gccgttatta	1620
ttaaatctgg	tgtgggatgg	cgaaggccaa	acgacgctga	tgcaaaccat	ccaggaacgt	1680
atcgcgcaag	catcgcaaca	ggaaggacgt	caccgttttc	catggccatt	acgttggtcg	1740

aactggttta ttccgaactg a

1761

<210> 86

<211> 1185

<212> DNA

<213> E. Coli

<400> 86

gtgtctaaag	aaaaatttga	acgtacaaaa	ccgcacgtta	acgttggtac	tatcgccac	60
gttgaccacg	gtaaaactac	tctgaccgct	gcaatcacca	ccgtactggc	taaaacctac	120
ggcgggtgctg	ctcgtgcatt	cgaccagatc	gataacgcgc	cggaagaaaa	agctcgtggt	180
atcaccatca	acacttctca	cgttgaatac	gacacccga	cccgtcacta	cgcacacgta	240
gactgcccg	ggcacgccga	ctatgttaaa	aacatgatca	ccggtgctgc	tcagatggac	300
ggcgcgatcc	tggtagtgtc	tgcgactgac	ggcccgatgc	cgcagactcg	tgagcacatc	360
ctgctgggtc	gtcaggtagg	cgttccgtac	atcatcgtgt	tcctgaacaa	atgcgacatg	420
gttgatgacg	aagagctgct	ggaactgggt	gaaatggaag	ttcgtgaact	tctgtctcag	480
tacgacttcc	cgggcgacga	cactccgatc	gttcgtgggt	ctgctctgaa	agcgtggaa	540
ggcgacgcag	agtgggaagc	gaaaatcctg	gaactggctg	gcttcctgga	ttcttatatt	600
ccggaaccag	agcgtgcat	tgacaagccg	ttcctgctgc	cgatcgaaga	cgtattctcc	660
atctccggtc	gtggtaccgt	tgttaccggt	cgtgtagaac	gcggtatcat	caaagttggt	720
gaagaagttg	aaatcgttgg	tatcaaagag	actcagaagt	ctacctgtac	tggcgttgaa	780
atgttcgcga	aactgctgga	cgaaggccgt	gctggtgaga	acgtagggtg	tctgctgcgt	840
ggtatcaaac	gtgaagaaat	cgaacgtgg	caggtagctg	ctaagccggg	caccatcaag	900
ccgcacacca	agttcgaatc	tgaagtgtac	attctgtcca	aagatgaagg	cgccggtcat	960
actccgttct	tcaaaggcta	ccgtccgcag	ttctacttcc	gtactactga	cgtgactggt	1020
accatcgaac	tgccggaagg	cgtagagatg	gtaatgccgg	gcgacaacat	caaatgggt	1080
gttaccctga	tccaccgat	cgcgatggac	gacggtctgc	gtttcgcaat	ccgtgaaggc	1140
ggccgtaccg	ttggcgcggg	cgttggtgct	aaagttctgg	gctaa		1185

<210> 87

<211> 2115

<212> DNA

<213> E. Coli

<400> 87

atggctcgta	caacacccat	cgcacgctac	cgtaacatcg	gtatcagtg	gcacatcgac	60
gccggtaaaa	ccactactac	cgaacgtatt	ctgttctaca	ccggtgtaaa	ccataaaatc	120
ggtgaagttc	atgacggcgc	tgaaccatg	gactggatgg	agcaggagca	ggaacgtggt	180
attaccatca	cttccgctgc	gactactgca	ttctggtctg	gtatggctaa	gcagtatgag	240
ccgcacgcga	tcaacatcat	cgacaccccg	gggcacgttg	acttcacaat	cgaagtagaa	300
cgttccatgc	gtgttctcga	tggtgcggta	atggtttact	gcgcagttgg	tggtgttcag	360
ccgcagtctg	aaaccgtatg	gcgtcaggca	aacaaatata	aagttcccg	cattgcgttc	420
gttaacaaaa	tggaccgcat	gggtgcgaac	ttcctgaaag	ttgttaacca	gatcaaaacc	480
cgtctggggc	cgaacccggt	tccgctgcag	ctggcgattg	gtgctgaaga	acatttcacc	540
ggtgttggtg	acctgggtgaa	aatgaaagct	atcaactgga	acgacgctga	ccagggcgta	600
accttcgaat	acgaagatat	cccggcagac	atggttgaac	tggctaacga	atggcaccag	660
aacctgatcg	aatccgcagc	tgaagcttct	gaagagctga	tggaaaaata	cctgggtggt	720
gaagaactga	ctgaagcaga	aatcaaagg	gctctgcgtc	agcgcgttct	gaacaacgaa	780
atcatcctgg	taacctgtgg	ttctgcgttc	aagaacaaag	gtgttcaggc	gatgctggat	840
gcggtaattg	attacctgcc	atccccggtt	gacgtacctg	cgatcaacgg	tatcctggac	900
gacggtaaag	acactccggc	tgaacgtcac	gcaagtgatg	acgagccgtt	ctctgcactg	960
gcgttcaaaa	tcgctaccga	cccgtttggt	ggtaacctga	ccttcttccg	tgtttactcc	1020
ggtgtggtta	actctggtga	taccgtactg	aactccgtga	aagctgcacg	tgagcgtttc	1080
ggtcgatatc	ttcagatgca	cgctaacaaa	cgtgaagaga	tcaaagaagt	tcgcgcgggc	1140
gacatcgctg	ctgctatcgg	tctgaaagac	gtaaccactg	gtgacaccct	gtgtgaccog	1200
gatgcgcga	tcattctgga	acgtatggaa	ttccctgagc	cggtaatctc	catcgagtt	1260
gaaccgaaaa	ccaaagctga	ccaggaaaaa	atgggtctgg	ctctggggccg	tctggctaaa	1320

gaagacccgt	ctttccgtgt	atggactgac	gaagaatcta	accagaccat	catcgcggggt	1380
atgggcgaac	tgcacctcga	catcatcggt	gaccgtatga	agcgtgaatt	caacggttgaa	1440
gcgaacgtag	gtaaaccgca	ggttgcttac	cgtgaaacta	tccgccagaa	agttaccgat	1500
ggtgaaggta	aacacgcgaa	acagtctggt	ggtcgtggtc	agtatggtea	tgttggtatc	1560
gacatgtacc	cgctggagcc	gggttcaaac	ccgaaaggct	acgagttcat	caacgacatt	1620
aaaggtggtg	taatccctgg	cgaatacatc	ccggccgttg	ataaagggtat	ccaggaacag	1680
ctgaaagcag	gtccgctggc	aggctacccg	gtagtagaca	tgggtattcg	tctgcacttc	1740
ggttcttacc	atgacgttga	ctcctctgaa	ctggcggtta	aactggctgc	ttctatcgcc	1800
tttaaagaag	gctttaagaa	agcgaaacca	gttctgcttg	agccgatcat	gaaggttgaa	1860
gtagaaactc	cggaagagaa	caccggtgac	gttatcggtg	acttgagccg	tcgtcgtggt	1920
atgctcaaag	gtcaggaatc	tgaagttact	ggcggttaaga	tccacgctga	agtaccgctg	1980
tctgaaatgt	tcggatacgc	aactcagctg	cgttctctga	ccaaaggctc	tgcatcatac	2040
actatggaat	tcctgaagta	tgatgaagcg	ccgagtaacg	ttgctcaggc	cgtaattgaa	2100
gcccgtggtg	aataa					2115

<210> 88
 <211> 540
 <212> DNA
 <213> E. Coli

<400> 88						
atgccacgtc	gtcgcgtcat	tggtcagcgt	aaaattctgc	cggatccgaa	gttcggatca	60
gaactgctgg	ctaaatttgt	aaatatcctg	atggtagatg	gtaaaaaatc	tactgctgaa	120
tctatcgat	acagcgcgct	ggagaccctg	gtcagcgct	ctggtaaatac	tgaactggaa	180
gcattcgaag	tagctctcga	aaacgtgcgc	ccgactgtag	aagttaagtc	tcgccgcggt	240
ggtggttcta	cttatcaggt	accagttgaa	gtccgtccgg	ttcgtcgtaa	tgctctggca	300
atgcgttgga	tcgttgaaagc	tgctcgtaaa	cgcggtgata	aatccatggc	tctgcgcctg	360
gcgaacgaac	tttctgatgc	tgcaaaaaac	aaaggtactg	cagttaagaa	acgtgaagac	420
gttcaccgta	tggccgaagc	caacaaggcg	ttcgacact	accgttggtt	atcccttcgg	480
agtttttagtc	accaggcgagg	cgcttccagt	aagcagcccg	ctttgggcta	cttaattgaa	540

<210> 89
 <211> 1549
 <212> DNA
 <213> E. Coli

<400> 89						
aaattgaaga	gtttgatcat	ggctcagatt	gaacgctggc	ggcaggccta	acacatgcaa	60
gtcgaacggt	aacaggaagc	agcttgctgc	ttcgctgacg	agtggcggac	gggtgagtaa	120
tgtctgggaa	gctgcctgat	ggagggggat	aactactgga	aacggtagct	aataccgcat	180
aatgtcgcaa	gaccaaagag	ggggaccttc	gggcctcttg	ccatcggatg	tgcccgatg	240
ggattagctt	ggttggtggg	taacggctca	ccaaggcgac	gatccctagc	tgggtctgaga	300
ggatgaccag	ccacactgga	actgagacac	ggtccagact	cctacgggag	gcagcagtg	360
ggaatattgc	acaatgggag	caagcctgat	gcagccatgc	cgcgtgtatg	aagaaggcct	420
tcgggttgta	aagtactttc	agcggggagg	aaggagtaa	agttaatacc	tttgctcatt	480
gacgttacc	gcagaagaag	caccggctaa	ctccgtgcca	gcagccgcgg	taatacggag	540
ggtgcaagcg	ttaatcgga	ttactgggag	ttaaagcgac	gcaggcgggt	tgggttaagtc	600
agatgtgaaa	tccccgggct	caacctggga	actgcatctg	atactggcaa	gcttgagtct	660
cgtagagggg	ggtagaattc	caggtgtagc	ggtgaaatgc	gtagagatct	ggaggaatac	720
cgggtggcgaa	ggcgggcccc	tggacgaaga	ctgacgctca	ggtgcgaaag	cgtggggagc	780
aaacaggatt	agataccctg	gtagtccacg	ccgtaaacga	tgtcgacttg	gaggttgtgc	840
ccttgaggcg	tggcttccgg	agctaacgcg	ttaagtcgac	cgcctgggga	gtacggccgc	900
aaggttaaaa	ctcaaataag	ttgacggggg	ccgcacaag	cgggtggagca	tgtggtttaa	960
ttcgatgcaa	cgcgaagaac	cttacctggt	cttgacatcc	acggaagtgt	tcagagatga	1020
gaatgtgcct	tcgggaaccg	tgagacaggt	gctgcatggc	tgtcgtcagc	tcgtgttgtg	1080
aaatgttggg	ttaagtcccg	caacgagcgc	aacccttata	ctttgttgcc	agcggtcggg	1140
cggggaactc	aaaggagact	gccagtgata	aactggagga	aggtggggat	gacgtcaagt	1200

catcatggcc	cttacgacca	gggctacaca	cgtgctacaa	tggcgcatat	aaagagaagc	1260
gacctcgcg	gagcaagcgg	acctcataaa	gtgcgtcgta	gtccggattg	gagtctgcaa	1320
ctcgactcca	tgaagtcgga	atcgctagta	atcggtggatc	agaatgccac	ggtgaatacg	1380
ttcccgggcc	ttgtacacac	cgcccgtcac	accatgggag	tgggttgcaa	aagaagtagg	1440
tagcttaacc	ttcgggaggg	cgcttaccac	tttgtgattc	atgactgggg	tgaagtcgta	1500
acaaggtaac	cgtaggggaa	cctgcggttg	gatcacctcc	ttaccttaa		1549

<210> 90

<211> 375

<212> DNA

<213> E. Coli

<400> 90

atggcaacag	ttaaccagct	ggtacgcaaa	ccacgtgctc	gcaaagttgc	gaaaagcaac	60
gtgcctgcgc	tggaagcatg	cccgcaaaaa	cgtggcgat	gtactcgtgt	atatactacc	120
actcctaaaa	aaccgaactc	cgcgctgcgt	aaagtatgcc	gtgttcgtct	gactaacggt	180
ttcgaagtga	cttcctacat	cggtgggtgaa	ggtcacaacc	tgcaggagca	ctccgtgatc	240
ctgatccgtg	gcggtcgtgt	taaagacctc	ccgggtgttc	gttaccacac	cgtacgtggt	300
gcgcttgact	gctccggcgt	taaagaccgt	aagcaggctc	gttccaagta	tggcgtgaag	360
cgctctaagg	cttaa					375

<210> 91

<211> 366

<212> DNA

<213> E. Coli

<400> 91

atgtctatca	ctaaagatca	aatcattgaa	gcagttgcag	ctatgtctgt	aatggacgtt	60
gtagaactga	tctctgcaat	ggaagaaaaa	ttcgggtgtt	ccgctgctgc	tgctgtagct	120
gtagctgctg	gccccggttg	agctgctgaa	gaaaaaactg	aattcgacgt	aattctgaaa	180
gctgctggcg	ctaacaaaagt	tgctgttatt	aaagcagtag	gtggcgcaac	tggcctgggt	240
ctgaaagaag	ctaaagacct	ggtagaatct	gcaccggctg	ctctgaaaga	agggctgagc	300
aaagacgacg	cagaagcact	gaaaaaagct	ctggaagaag	ctggcgctga	agttgaagtt	360
aaataa						366

<210> 92

<211> 498

<212> DNA

<213> E. Coli

<400> 92

atggctttta	atcttcaaga	caaacaagcg	attgttgctg	aagtcagcga	agtagccaaa	60
ggcgcgctgt	ctgcagtagt	tgccgattcc	cgtggcgtaa	ctgtagataa	aatgactgaa	120
ctgcgtaaaag	caggtcgcga	agctggcgta	tacatgcgtg	ttgttcgtaa	caccctgctg	180
cgccgtgctg	ttgaagggtac	tccgttcgag	tgctgaaaag	acgcgtttgt	tgggtccgacc	240
ctgattgcat	actctatgga	acacccgggc	gctgctgctc	gtctgttcaa	agagttcgcg	300
aaagcgaatg	caaaatttga	ggtcaaagcc	gctgcctttg	aaggtgagct	gatcccggcg	360
tctcagatcg	accgcctggc	aactctgccg	acctacgaag	aagcaattgc	acgcctgatg	420
gcaaccatga	aagaagcttc	ggctggcaaa	ctggttcgta	ctctggctgc	tgtacgcgat	480
gcgaaagaag	ctgcttaa					498

<210> 93

<211> 2145

<212> DNA

<213> E. Coli

<400> 93

gtgtcccgta	ttattatgct	gatccctacc	ggaaccagcg	tccgtctgac	cagcgtcagc	60
cttggcgtga	tccgtgcaat	ggaacgcaaa	ggcgttcgtc	tgagcgtttt	caaacctatc	120
gctcagccgc	gtaccgggtg	cgatgcgccc	gatcagacta	cgactatcgt	gcgtgcgaac	180
tcttccacca	cgacggccgc	tgaaccgctg	aaaatgagct	acgttgaagg	tctgctttcc	240
agcaatcaga	aagatgtgct	gatggaagag	atcgtcgcga	actaccacgc	taacacccaaa	300
gacgctgaag	tcgtttctggt	tgaaggctctg	gtcccgcacac	gtaagcacca	gtttgcccgag	360
tctctgaact	acgaaatcgc	taaaacgctg	aatgcggaaa	tcgtcttcgt	tatgtctcag	420
ggcactgaca	ccccggaaca	gctgaaagag	cgtatcgaac	tgaccgcgaa	cagcttcggc	480
ggtgccaaaa	acaccaacat	caccggcggt	atcgtttaaca	aactgaacgc	accggttgat	540
gaacagggtc	gtactcgccc	ggatctgtcc	gagattttcg	acgactcttc	caaagctaaa	600
gtaaacaaatg	ttgatccggc	gaagctgcaa	gaatccagcc	cgctgccggg	tctcggcgct	660
gtgccgtgga	gctttgacct	gatcgcgact	cgtgcgactc	atatggctcg	ccacctgaat	720
gcgaccatca	tcaacgaagg	cgacatcaat	actgcgcgcg	ttaaatacgt	cactttctgc	780
gcacgcagca	ttccgcacat	gctggagcac	ttccgtgccg	gttctctgct	ggtgacttcc	840
gcagaccgtc	ctgacgtgct	ggtggccgct	tgccctggcag	ccatgaacgg	cgtagaaatc	900
ggtgccctgc	tgctgactgg	cggttacgaa	atggacgcgc	gcattttctaa	actgtgcgaa	960
cgtgctttcg	ctaccggcct	gccggtat	atgggtgaaca	ccaacacctg	gcagacctct	1020
ctgagcctgc	agagcttcaa	cctggaagtt	ccggttgacg	atcacgaacg	tatcgagaaa	1080
gttcaggaat	acgttgctaa	ctacatcaac	gctgactgga	tcgaatctct	gactgccact	1140
tctgagcgca	gccgtcgtct	gtctccgcct	gcgttccggt	atcagctgac	tgaacttgcg	1200
cgaaagcgg	gcaaacgtat	cgtactgccg	gaagggtgacg	aaccgcgtac	cgtaaagca	1260
gccgctatct	gtgctgaacg	tggtatcgca	acttgcgtag	tgctgggtaa	tccggcagag	1320
atcaaccgtg	ttgcagcgtc	tcagggtgta	gaactgggtg	cagggattga	aatcggtgat	1380
ccagaagtgg	ttcgcgaaag	ctatgttggg	cgtctggtcg	aactgcgtaa	gaacaaaggc	1440
atgaccgaaa	ccgttgcccg	cgaacagctg	gaagacaacg	tggtgctcgg	tacgctgatg	1500
ctggaacagg	atgaagttga	tggtctggtt	tccggtgctg	ttcacactac	cgcaaacacc	1560
atccgtccgc	cgctgcagct	gatcaaaact	gcaccgggca	gctccctggt	atcttccggt	1620
ttcttcatgc	tgctgccgga	acaggtttac	gtttacggtg	actgtgcgat	caaccgggat	1680
ccgaccgctg	aacagctggc	agaaatcgcg	attcagttccg	ctgattccgc	tgccgcttc	1740
ggtatcgaa	cgcgcggttc	tatgctctcc	tactccaccg	gtacttctgg	tgcaggtagc	1800
gacgtagaaa	aagtctcgca	agcaactcgt	ctggcgccag	aaaaacgtcc	tgacctgatg	1860
atcgacggtc	cgctgcagta	cgacgctgcg	gtaatggctg	acgttgcgaa	atccaaagcg	1920
ccgaactctc	cggttgccag	tcgcgctacc	gtgttcattc	tcccggatct	gaacaccggg	1980
aacaccacct	acaaagcggg	acagcgttct	gccgacctga	tctccatcgg	gccgatgctg	2040
cagggtatgc	gcaagccggg	taacgacctg	tcccggtggc	cactgggttg	cgatatcgct	2100
tacaccatcg	cgctgactgc	gattcagttc	gcacagcagc	agtaa		2145

<210> 94

<211> 1767

<212> DNA

<213> E. Coli

<400> 94

atgaataatt	ctattaacca	taaatttcat	cacattagcc	gggctgaata	ccaggaattg	60
ttagccggtt	cccgtggcga	cgctgttgcc	gattatatta	ttgataatgt	ctctattctc	120
gacctgatca	atggcggaga	aattttccgg	ccaattgtga	ttaaaggacg	ttacattgcc	180
ggtgttggcg	cagaatacac	tgatgctccg	gctttgcagc	ggattgatgc	tcgcggcgca	240
acggcggtgc	cagggtttat	tgatgctcac	ctgcataattg	aatccagcat	gatgacgccg	300
gtcacttttg	aaaccgctac	cctgccgcgc	ggcctgacga	ccgttatattg	cgacctcat	360
gaaatcgta	acgtgatggg	cgaagccgga	ttcgccctgg	ttgcccgtcg	tgccgaacag	420
gcaaggcaaa	accagtactt	acaggtcagc	tcttgcgtag	ccgccctgga	aggctgcgat	480
gttaacgggtg	ccagtttttac	ccttgaacag	atgctcgcct	ggcgggacca	tccgcagggt	540
accggccttg	cagaaatgat	ggactaccct	ggcgtaatta	gcgggcagaa	tgcgctgctc	600
gataaactgg	atgcattttcg	ccacctgacg	ctggacgggtc	actgcccggg	tttgggtggg	660
aaagaactta	acgcctatat	tactgcgggt	attgaaaact	gccacgaaag	ttatcagctg	720
gaagaaggac	gccggaaatt	acaactcggc	atgtcgttga	tgatccgcga	agggtccgct	780
gcccgcaatc	tcaacgcgct	ggcaccgttg	atcaacgaat	ttaacagccc	gcaatgcatg	840

ctctgtaccg	atgaccgtaa	cccgtgggag	atcgcccatg	aaggacacat	cgatgcctta	900
attcgccgcc	tgatcgaaca	acacaatgtg	ccgctgcatg	tggcatatcg	cgtcgcccagc	960
tggctgacgg	cgcgccactt	tggctctgaat	cacctcggtc	tactggcacc	cggcaagcag	1020
gccgatatcg	tcctgttgag	cgatgcgcgt	aaggtcacgg	tgcagcaggt	actggtgaaa	1080
ggcgagccga	ttgatgcgca	aaccttacag	gcggaagagt	cggcgagact	ggcacaatcc	1140
gctccgccat	atggcaacac	cattgcccgc	cagccagttt	ccgccagcga	ctttgccctg	1200
caatttacgc	ccggaaaacg	ctatcggttc	attgacgtca	tccataacga	attgattacg	1260
cactcccact	ccagcgtcta	cagcgaaaat	ggttttgatc	gcgatgatgt	gagctttatt	1320
gccgtacttg	agcgttacgg	gcaacggctg	gctccggctt	gtggtttgct	tggcggcttt	1380
ggactgaatg	aagggtgcgt	ggctgcgacg	gtcagccatg	acagccataa	tattgtggtg	1440
atcggtcgca	gtgccgaaga	gatggcgctg	gcggtcaatc	aggtgattca	ggatggcggc	1500
gggctgtgcg	tggtagtaaa	cggccaggta	caaagtcatc	tgccgttacc	cattgccggg	1560
ctgatgagca	ccgacacggc	gcagtcgctg	gcggaacaaa	ttgacgcctt	gaaagccgcc	1620
gcccgtgaat	gcggtccggt	acccgatgag	ccgtttatct	agatggcggt	tctttctctg	1680
ccagtgatcc	ccgcgctaaa	actaaccagt	caggggctat	ttgatggcga	gaagtttgcc	1740
ttcactacgc	tggaagtcac	ggaataa				1767

<210> 95
 <211> 1227
 <212> DNA
 <213> E. Coli

<400> 95						
atggcgattt	gcaatccggg	cctggaatcc	aggccgaata	agagaaacgc	cctccggcggt	60
catgtggtaa	caggcatagg	tatgaaaatc	gtaatcgccc	cagactctta	taaagaaagt	120
ttatctgcca	gcgaggttgc	gcaggcgata	gaaaaaggat	ttcgggaaat	ttttcctgat	180
gcacagtacg	tttctgttcc	ggttgccgac	ggtggcgaag	gaacgggtga	agcgatgatt	240
gcagccaccc	agggggctga	acgtcacgcc	tgggttacag	ggccgctggg	cgagaaagtg	300
aatgccagtt	gggggatctc	cggcgatggc	aaaaccgcgt	ttattgaaat	ggcggcggcc	360
agtgggctgg	agctggtacc	tgcgaaaaaa	cgcatccac	tcgtgaccac	ttcacgcggc	420
acaggcgagt	taatcctgca	ggcgctggag	agcggtgcca	caaacattat	tatcggcatt	480
ggcggcagcg	ctacaaatga	tggcggcgca	ggcatggtac	aggcgctggg	ggcgaaatta	540
tgcgacgcca	acggcaatga	aattggtttt	ggcggcggtg	gtcttaatac	tctgaatgat	600
attgatattt	ccggcctcga	tccgcgctta	aaagattgcg	tcattcgcgt	cgcttgatgat	660
gtcaccaatc	cgctggtggg	cgataacggc	gcacgcgcga	tctttggccc	acaaaaggga	720
gccagtgaag	cgatgattgt	tgagctggac	aataacctct	ctcactatgc	cgaggtcatt	780
aaaaaagcgc	tgcattgtga	tgtgaaagat	gtccccgggtg	caggagctgc	gggtggtatg	840
ggcgcggcgc	taatggcggt	tcttggtgcg	gaactgaaaa	gtggtattga	aatcgtcact	900
acggcgctga	atctggagga	acataattcac	gattgtacgc	tggatgacac	cggatgaagg	960
cgtattgaca	gccagagtat	tcacgggaag	gtaccgattg	gtgtcgcaaa	cgtggcggaag	1020
aagtaccata	aaccggtgat	tggcattgcg	ggtagcctga	ccgatgatgt	tggcgttgta	1080
catcagcatg	gcattgatgc	ggtcttcagc	gtattgacca	gcataaggta	gttgacgaa	1140
gcattccgcg	gggcttatga	caatatctgc	cgtgcttcac	gtaatatcgc	cgcgacactg	1200
gcgattggaa	tgcgcaacgc	ggggtga				1227

<210> 96
 <211> 900
 <212> DNA
 <213> E. Coli

<400> 96						
atgattgata	tgactatgaa	agttgggtttt	attggccttg	ggattatggg	taaaccaatg	60
agtaaaaacc	ttctgaaagc	aggttactcg	ctggtggttg	ctgaccgtaa	cccagaagct	120
attgctgacg	tgattgctgc	aggtgcagaa	acagcgtcta	cggctaaagc	gatcgctgaa	180
cagtgcgacg	tcatacataac	catgctgcca	aactcccctc	atgtgaaaga	ggtggcgctg	240
ggtgagaatg	gcattattga	aggcgcgaag	ccaggtacgg	tattgatcga	tatgagttct	300
atcgcaccgc	tggcaagccg	tgaaatcagc	gaagcgctga	aagcgaaagg	cattgatatg	360

ctggatgctc	cggtgagcgg	cggtgaaccg	aaagccatcg	acggtacgct	gtcagtgatg	420
gtgggcgggc	acaaggetat	tttcgacaaa	tactatgatt	tgatgaaagc	gatggcgggg	480
tccgtggtgc	ataccgggga	aatcggtgca	ggtaacgtca	ccaaactggc	aaatcagggtc	540
attgtggcgc	tgaatattgc	cgcgatgtca	gaagcgtaa	cgctggcaac	taaagcgggc	600
gttaaccggg	acctggttta	tcaggcaatt	cgcggtggac	tggcgggcag	taccgtgctg	660
gatgccaaaag	cgccgatggg	gatggaccgc	aacttcaagc	cgggcttccg	tattgatctg	720
catattaagg	atctggcgaa	tgcgctggat	acttctcacg	gcgtcggcgc	acaactgccg	780
ctcacagctg	cggttatgga	gatgatgcag	gcactgcgag	cagatggttt	aggaacggcg	840
gatcatagcg	ccctggcgtg	ctactacgaa	aaactggcga	aagtcgaagt	tactcgtaa	900

<210> 97
 <211> 771
 <212> DNA
 <213> E. Coli

<400> 97						
atgaataacg	atgttttccc	gaataaattc	aaagccgcac	tggctgcgaa	acaggtacaa	60
attggttgct	ggtcagcact	ctctaaccgg	attagcactg	aagttcttgg	tttggctggg	120
tttgactggc	tgggtgctgga	tggcgaacat	gcgccaaacg	atatctccac	gtttattccg	180
cagttaatgg	ccttgaaagg	cagcgccagc	gcgccagtag	tgcgagtgcc	gaccaacgag	240
ccggtaatga	ttaagcgtct	tctggatata	ggtttctata	acttcctgat	tccttttgta	300
gaaacaaaag	aggaagcaga	gctggcggtg	gcatcaacc	gttaccacc	ggaaggcatt	360
cgcgcgctct	ccgtttctca	ccgcgccaat	atgtttggca	ccgtggcgga	ttatttcgct	420
cagtcgaaca	agaacatcac	tattctggtc	cagatagaaa	gtcagcaggg	cgtagataac	480
gtcgaatcca	ttgcccgtat	cgaaggcgta	gacggcatct	tcgtcggccc	cagcgatctg	540
gccgcggcat	taggcatct	cggcaatgca	tcacaccggg	atgtacaaaa	agcaattcag	600
cacattttta	accgtgccag	cgcgcacggc	aaaccagcg	gtatcctcgc	gccggtcgaa	660
gccgatgcgc	gtcgttatct	ggaatggggc	gcgacgtttg	tggctgtcgg	cagcgatctc	720
ggcgtcttcc	gctctgccac	tcagaaactg	gctgatacct	ttaaaaaata	a	771

<210> 98
 <211> 1335
 <212> DNA
 <213> E. Coli

<400> 98						
atgattctgg	acaccgttga	cgaaaaaaag	aaaggcgtgc	ataccgcgcta	tttaatatta	60
ctgattattt	ttattgttac	cgccgttaac	tacgccgatc	gtgcaacgct	gtctattgct	120
ggtaccgaag	tggcaaaaga	gttgacgtta	agtgcggttt	cgatgggtta	catcttctcc	180
gcttttggtc	gggcctactt	gctgatgcaa	atccccggcg	gctggctgct	tgataagttt	240
ggctcgaaaa	aagtttacac	ctacagcctc	tttttctggt	cgctattcac	cttcctgcaa	300
ggctttggtg	atatgttccc	gctggcctgg	gcagggatct	ccatgttctt	tatgcgcttt	360
atgctcggct	tctcggaagc	gccatcatte	ccggcgaaac	ccgaattgt	cgccgcctgg	420
ttcccgcaga	aagaacgtgg	tactgcctcc	gccatcttta	actcggcgca	atatttctcg	480
ctggcgctct	tttcgcgcgt	gcttggtggt	ctgactttcg	cctggggctg	ggagcacgtc	540
tttaccgtta	tgggggtgat	tggttttgtg	ctgacggcgc	tgtggatcaa	gttgattcat	600
aaccgcagac	atcacccacg	tatgtctgcg	gaagagctga	agtttatctc	tgaaaatggc	660
gcggtggctg	atatggacca	caaaaagccg	ggcagtgccg	cagcaagcgg	acccaaactg	720
cattacatca	agcaattgct	ctctaaccgc	atgatgctgg	gcgtattttt	cggacaatat	780
tttatcaaca	ccatcacctg	gttcttctct	acctgggttc	cgatttatct	ggtgcaggaa	840
aaaggcatgt	cgattctgaa	agtgggtctg	gtcgccctga	ttccagcact	gtgtgggttt	900
gcgggcggcg	tgctgggagg	tgtcttctcg	gattatctga	tcaaacgcgg	tttatccctg	960
acctggcac	gtaagctacc	gattgtgctg	ggaatgttgc	tggcttccac	catcatctta	1020
tgtaaactaca	ccaacaacac	cacgctgggt	gtcatgctga	tggcgctggc	tttctttggc	1080
aaaggatttg	gtgcgctggg	ctggccgggt	atctctgaca	ccgcgccgaa	agagattggt	1140
ggcctctgcg	gcggcgtctt	taacgtcttt	ggcaatgttg	cctccattgt	cactccactg	1200
gtgattggct	acctggttaag	tgaactgcac	tccttcaatg	cagcactggt	tttcgtggga	1260

tgttcagcgc	tgatggcgat	ggctctgctac	ctcttcgtag	ttggcgacat	taaacgtatg	1320
gaattgcaga	aataa					1335

<210> 99
 <211> 1536
 <212> DNA
 <213> E. Coli

<400> 99						
atgcaaacga	gtgatacccg	cgcgttaccg	ctactttgcg	cccgcctcgg	ttataaacag	60
tattcagggg	tcaatgtcct	gaaaggcatc	gattttacgt	tgcatcaggg	ggaggtccac	120
gccctgctcg	gcggcaatgg	tgccggtaaa	tcgacgttaa	tgaagattat	tgccggtatt	180
acccctgctg	atagcggtag	gctggagatt	gagggcaaca	actacgtcag	attaacgcca	240
gttcatgctc	atcagctggg	tatttatctc	gttccccagg	aaccgctgct	tttcccaagc	300
ctgtcgataa	aagaaaacat	cctgtttggg	ctggcaaaaa	aacagctctc	catgcagaaa	360
atgaagaact	tgctggcggc	gctgggctgc	cagtttgatc	tgcatagtct	ggcaggatcg	420
ctggatgtcg	ccgatcgcca	aatgggtgaa	atcctccgcg	ggctgatgcg	cgactcgcgg	480
attctgatcc	tcgatgaacc	taccgcctcg	cttaccctcg	cggaaaccga	acgcttgttt	540
agtcgcttgc	aagagctgct	tgctactggc	gtgggtattg	tttttatctc	gcataagctg	600
ccggaaattc	gccagattgc	cgatcgaatt	agcgtgatgc	gcgacggaac	catcgcccta	660
agcggcaaaa	ccagcgaact	gtctaccgac	gacattattc	aggccatcac	cccagcggta	720
cgggaaaaat	cgctctctgc	cagccaaaaa	ttatggctgg	agttacctgg	taaccgcccc	780
caacatgccg	ccggaacgcc	ggtgctgaca	ctggaaaatc	tgaccggcga	aggtttcagg	840
aatgtcagcc	tgacgtcaa	tgccggagaa	attctgggcc	tggtctgggt	gggtggggcc	900
ggacgcacag	aactggccga	gacgtcttat	ggtctgcgta	ctttgcgtgg	cggacgcatt	960
atgctgaatg	gtaaaagatg	caataaatta	tccactggag	aacgtttact	gcgcggctctg	1020
gtttatctgc	cggaagatcg	ccagtcattc	ggactgaatc	tcgatgcttc	gctggcctgg	1080
aacgtctgcg	cccttactca	taaccttcgt	ggattctggg	cgaaaaccgc	gaaagataat	1140
gccaccctgg	aacgttatcg	tcgggcgctg	aatattaaat	tcaaccaacc	ggaacaagct	1200
gcacggacat	tatccggtag	caaccagcaa	aaaatcctca	ttgccaaatg	cttggaagct	1260
tcgccgcaag	tattgattgt	cgatgagccg	acgcgcggcg	tggtatgtct	ggcccgtaat	1320
gatatctacc	agctgttgcg	cagcatcgcc	gcacaaaatg	tggtctgtgt	gcttatctcc	1380
tccgacctgg	aagagatcga	actgatggca	gatcgtgtgt	atgtgatgca	tcagggcgaa	1440
attaccact	ctgcactgac	cgagcgcgat	attaatgtcg	agactattat	gcgcgttgcc	1500
ttcggcgata	gtcagcgtca	ggaggcgtca	tgctga			1536

<210> 100
 <211> 1029
 <212> DNA
 <213> E. Coli

<400> 100						
atgctgaagt	ttattcagaa	caaccgtgaa	atcacggcac	tgctggcggg	ggtgctgctg	60
tttgtattac	ccggttttct	cgaccgccag	tatttaagtg	tgcaaacgct	gaccatggtt	120
tatagcagcg	cgaaaatcct	gatcctgctg	gcaatgggcg	cgacgctggt	aatgcttacg	180
cgcaatattg	atgtttcagt	gggttcgatt	accggaatgt	gcgcggtgct	gttggggatg	240
ttactgaacg	caggatatcc	actacctgtt	gcttggtgct	cgactttact	gcttggtttg	300
ctcgcgggat	ttttcaacgg	tgtcctggtc	gcgtggctaa	agatccctgc	cattggtgcc	360
acccttggca	cgttagggtt	gtacagaggc	atcatgttgc	tgtggactgg	cggcaaatgg	420
attgaagggt	taccgcgcga	actgaaacag	ctctccgccc	cgctgctgct	tggcggttca	480
gcaattgggt	ggttgacgat	aattctgggt	gcatttatgg	cctggctgct	ggcaaagacg	540
gcgtttggac	gcagttttta	tgccacgggc	gataatttac	agggcgctcg	tcaactgggc	600
gttcgtactg	aagccattcg	cattgtggca	ttttcgttga	acggctgcat	ggcggcactg	660
gcgggaattg	tgtttgcttc	gcagattggg	tttatcccca	accagaccgg	taccgggctg	720
gagatgaaag	caattgcagc	ctgcgtgctg	ggcggcatta	gtttgctcgg	tggttccggg	780
gcgatcattg	gtgcggtagt	cggcgcgatg	ttcctgacgc	agatcgatag	cgtactgggt	840
ctgttgcgca	ttccggcatg	gtggaatgat	tttatcgcgg	gtctgggttct	gctggcgggtg	900

ctggtgtttg	atggacgcct	gcgttgtgcg	ctggaacgta	atctacggcg	gcaaaaatat	960
gcccgcctta	tgacgccacc	gccatccggt	aaacccgctt	cgtcaggtaa	aaaacgggag	1020
gccgcataa						1029

<210> 101
 <211> 993
 <212> DNA
 <213> E. Coli

<400> 101						
atgcgtattc	gctacggttg	ggaactggct	cttgccgcac	tgctcgttat	tgagattgtc	60
gcatttggtg	caattaaccc	gcgaatgtta	gatctcaata	tggtgctgtt	cagcaccagt	120
gactttatct	gcattggcat	tgtcgcccta	ccgctaacga	tggtgattgt	cagtggcggg	180
atcgatattt	cgtttggttc	gaccatcggc	ctctgcgcca	ttgcattggg	cgactgtttt	240
caaagtgggtg	tgccgatgcc	gctggcgata	ctcctgacct	tactgctcgg	cgcatgtgtc	300
gggctgatca	acgccggatt	aattatctat	accaaagtta	acccgctggt	gattacgctt	360
ggcacgctgt	atctgtttgc	cggaagcgct	ctgctgcttt	ccggtatggc	cggagcgacg	420
gggtacgaag	gtattggtgg	attcccgatg	gcgtttacag	atttcgctaa	cctggatgtg	480
ctgggactcc	ccgttcgcgt	gattatcttc	ctgatatgtc	tcctcgtttt	ctggctctgg	540
ctgcataaaa	cccatgccgg	acgtaatgtg	tttttgattg	ggcaaagccc	gcgcgtggcg	600
ctttatagcg	cgattccagt	taaccgtacc	ttatgtgcgc	tctatgccat	gacggggctg	660
gcgtctgcgg	tcgccgctgt	gctgctggta	tcgtattttg	gttcagcacg	ttccgatctc	720
ggtgcgtcgt	ttctgatgcc	cgccatcacc	gccgtgggtg	ttggcggggc	caatatttat	780
ggtggttccg	gttccattat	cggcaccgcc	attgcggttt	tattagtggg	atatttgcaa	840
caaggtttgc	aaatggcagg	agtgccaaat	caggtgtcca	gcgccctttc	cggtgcgcta	900
cttatcgtcg	ttgtcgtagg	tcgttcgcgt	agcctgcata	gccagcaaat	taaagagtgg	960
ctggcgcgctc	gggccaataa	cccattgccca	taa			993

<210> 102
 <211> 1023
 <212> DNA
 <213> E. Coli

<400> 102						
atgacacttc	atcgctttta	gaaaatcgcc	ttacttagcg	ctcttggcat	tgccgcaatc	60
tctatgaatg	tgacggccgc	agagcgattt	gcattttattc	ccaaactggt	tggcgtggga	120
ttttttacca	gcggtggcaa	cggcgcacaa	caagcgggta	aagagctggg	cgttgatgtg	180
acctacgacg	ggccgacaga	acccagtgtt	tctggtcagg	tacagttgat	taataacttc	240
gtcaatcaag	gttataacgc	cattatcggt	tctgcggttt	cgctgatgg	cttgtgtccg	300
gcaactgaaac	gcgccatgca	acgtggtgtg	agagtgtctga	cctgggactc	tgatactaaa	360
ccggagtgcc	gctcttacta	cattaatcag	ggaacgcccc	cccagttagg	aggtatgttg	420
gtggatatgg	cggcgcgtca	ggtgaataaa	gacaaaagcca	aagtcgcgtt	tttctactca	480
agccccaccg	ttacggacca	aaaccagtgg	gtgaaaagaag	cgaaagcgaa	aatcgccaaa	540
gagcatccag	gctgggaaat	tgtcactacg	cagtttggtc	ataacgatgc	cactaaatcg	600
ttacaaaaccg	cagaagggaat	attaaaagcg	tatagcgatc	tcgacgccat	tatcgcccc	660
gatgccaacg	ccctgcccgc	tgccgcacaa	gccgcagaaa	acttgaaaaa	tgacaaagta	720
gcgattgtcg	gattcagtac	gccaaatgtg	atgcgcccgt	atgtagagcg	cggcacggtg	780
aaagaatttg	gcctgtggga	tgtggttcag	caaggcaaaa	tttcagtgtg	tgtcgcggat	840
gcattattga	aaaaaggatc	aatgaaaacg	ggcgacaagc	tgatatcaaa	gggcgtaggt	900
caggttgaag	tctcgccaaa	cagcgttcag	ggctatgact	acgaagcgga	tggtaatggc	960
atcgctactgt	taccggagcg	cgtgatattc	aacaaagaga	atatcggcaa	atacgatttc	1020
tga						1023

<210> 103
 <211> 876
 <212> DNA
 <213> E. Coli

<400> 103

atggcagatt	tagacgatat	taaagatggt	aaagattttc	gtaccgatca	accgcaaaaa	60
aatatccctt	ttaccctgaa	aggttgcggt	gcgctggatt	ggggaatgca	gtcacgctta	120
tcgcggatat	ttaatccgaa	aacgggtaaa	accgtgatgc	tggcttttga	ccatggttat	180
tttcagggac	cgactaccgg	acttgaacgc	attgatataa	atategcccc	gctgtttgaa	240
catgccgatg	tattaatgtg	tacgcgcggc	atthttgcgca	gcgtagttcc	ccctgcgacc	300
aataggccgg	tggtagtcg	ggcgtcagg	gcgaactcta	ttctggcgga	attaagtaat	360
gaagccgtgg	cgttatcgat	ggatgacgcc	gtgcgcctga	acagttgcgc	ggtggcgggc	420
caggtttata	tcggcagcga	atatgaacat	cagtcgatca	aaaatattat	tcagctgggt	480
gatgccggaa	tgaagtggtg	aatgccgacc	atggccgtga	ctggcggtgg	caaagatatg	540
gtgcgcgatc	agcgttatth	ctcgctcgcg	actcgaatcg	ccgctgaaat	gggggcgcaa	600
attatcaaaa	cctattatgt	cgaaaaaggt	tttgaacgga	ttgttgccgg	atgtccggta	660
cccattgtta	ttgctggcgg	taaaaaatta	ccggagcgcg	aggcgctgga	aatgtgctgg	720
caggctatcg	atcagggcgc	ttctggtgtg	gatatggggc	gtaatattht	ccagtcctgac	780
catccgggtg	cgatgatgaa	agccgtacag	gcggtggttc	accataacga	aacggctgat	840
cgggcatatg	aactctatct	gagtgaaaaa	cagtaa			876

<210> 104
 <211> 291
 <212> DNA
 <213> E. Coli

<400> 104

atgcacgtca	cactggttga	aattaacgth	catgaagaca	aggttgacga	gtttatcgaa	60
gtttttcgcc	agaaccacct	gggctctgta	caggaagaag	gcaatthtgc	cttcgatgtc	120
ttacaggacc	cggaagtgaa	ttcgcgctth	tatatctacg	aagcctataa	agatgaagac	180
gcagtggcgt	tccataaaac	cacgccccac	tacaaaacct	gtgtcgcgaa	actggaatct	240
ttaatgaccg	ggccgcgtaa	aaaacgtctg	ttcaatggth	tgatgccgtg	a	291

<210> 105
 <211> 1152
 <212> DNA
 <213> E. Coli

<400> 105

atgtttgaac	caatggaact	taccaatgac	gcggtgatta	aagtcacgcg	cgtcggcggc	60
ggcggcggtg	atgctgttga	acacatgggt	cgcgagcgca	ttgaagggtg	tgaattcttc	120
gcggtaaaata	ccgatgcaca	agcgtgcgt	aaaacagcgg	ttggacagac	gattcaaadc	180
ggtagcggta	tcaccaaagg	actgggcgct	ggcgctaadc	cagaagttgg	ccgcaatgcg	240
gctgatgagg	atcgcgatgc	attgcgtgcg	gcgctggaag	gtgcagacat	ggtctthatt	300
gctgcgggta	tgggtgggtg	taccggtaca	ggtgcagcac	cagtcgtcgc	tgaagtggca	360
aaagatthtg	gtatcctgac	cgthgctgtc	gtcactaagc	ctthcaactt	tgaaggcaag	420
aagcgtatgg	cattcgcgga	gcaggggatc	actgaactgt	ccaagcatgt	ggactctctg	480
atcactatcc	cgaacgacaa	actgctgaaa	gthctggggc	gcggtatctc	cctgctggat	540
gcgtthtggc	cagcgaacga	tgtactgaaa	ggcgctgtgc	aaggatatcg	tgaactgatt	600
actcgtccgg	gthtgatgaa	cgtggactth	gcagacgtac	gcaccgtaat	gtctgagatg	660
ggctacgcaa	tgatgggttc	tggcggtggc	agcgggtgaag	accgtgcgga	agaagctgct	720
gaaatggcta	tctcttctcc	gctgctggaa	gatatcgacc	tgtctggcgc	gcgcggcgctg	780
ctggtaaaca	tcacggcggg	cttcgacctg	cgtctggatg	agthcgaaac	ggtaggtaac	840
accatccgtg	catttgcttc	cgacaacgcg	actgtggth	tcggtacttc	tcttgacctg	900
gatatgaatg	acgagctgcg	cgtaaccgth	gthtgcgacag	gtatcggcac	ggacaaacgt	960
cctgaaatca	ctctggtgac	caataagcag	gthcagcagc	cagtgatgga	tcgctaccag	1020
cagcatggga	tggctccgct	gacccaggag	cagaagccgg	ttgctaaaag	cgtgaatgac	1080
aatgcgccgc	aaactgcgaa	agagccggat	tatctggata	tcccagcatt	cctgcgtaag	1140
caagctgatt	aa					1152

<210> 106
 <211> 3048
 <212> DNA
 <213> E. Coli

<400> 106

atggacgtca	gtcgcagaca	atTTTTTTaaa	atctgcgcgg	gcggtatggc	tggaaacaaca	60
gtagcggcat	tgggctttgc	cccgaagcaa	gcactggctc	aggcgcgaaa	ctacaaatta	120
ttacgcgcta	aagagatccg	taacacctgc	acatactggt	ccgtagggtg	cgggctattg	180
atgtatagcc	tgggtgatgg	cgcaaaaaac	gccagagaag	cgatttatca	cattgaaggt	240
gaccgcggtc	atccggtaag	ccgtgggtgcg	ctgtgcccgga	aaggggcccgg	tttgctggat	300
tacgtcaaca	gtgaaaaccg	tctgcgctac	ccggaatatc	gtgcgccagg	ttctgacaaa	360
tggcagcgca	ttagctggga	agaagcattc	tcccgtattg	cgaagctgat	gaaagctgac	420
cgtgacgcta	actttattga	aaagaacgag	cagggcgtaa	cggtaaaccg	ttggctttct	480
accggtatgc	tgtgtgcctc	cggtgccagc	aacgaaaccg	ggatgctgac	ccagaaattt	540
gcccgcctcc	tcgggatgct	ggcggtagac	aaccaggcgc	gcgtctgaca	cggaccaacg	600
gtagcaagtc	ttgctccaac	atTTTggtcg	ggtgcgatga	ccaaccactg	ggtggatatc	660
aaaaacgcta	acgtcgtgat	ggtgatgggc	ggtaacgctg	ctgaagcgca	tcccgtcggg	720
ttccgctggg	cgatggaagc	gaaaaacaac	aacgacgcaa	ccttgatcgt	tgtcgatccc	780
cgTTTTacgc	gtaccgcttc	tgtggcggat	atTTTacgcgc	ctattcgttc	cggtagcgac	840
attacgttcc	tgtctggcgt	tttgcgctac	ctgatcgaaa	acaacaaaat	caacgccgaa	900
tacgttaagc	attacaccaa	cgccagcctg	ctgggtgcgtg	atgattttgc	tttcgaagac	960
ggtctgttca	gcggctacga	cgctgaaaaa	cgtcaatacg	ataaatcgtc	ctggaactat	1020
cagctcgatg	aaaacggcta	tgcgaaacgc	gatgaaacac	tgactcatcc	gcgctgtgtg	1080
tggaaacctgc	tgaagagca	cgTTTTccgc	tacacgccgg	acgtcgttga	aaacatctgc	1140
ggtacgcca	aagccgactt	cctgaaagtg	tgtgaagtgc	tggcctccac	cagcgcaccg	1200
gatcgacaaa	ccaccttcct	gtacgcgctg	ggctggacgc	agcacactgt	gggtgcgcag	1260
aacatccgta	ctatggcgat	gatccagttg	ctgctcggtg	acatgggtat	ggccggtggc	1320
ggcgtgaacg	cattgcgtgg	tactccaac	attcagggtc	tgactgactt	aggcctgctc	1380
tctaccagcc	tgccagggtta	tctgacgctg	ccgtcagaaa	aacagggtga	tttgacgtcg	1440
tatctggaag	cgaacacgcc	gaaagcgacg	ctgggtgatc	aggtgaacta	ctggagcaac	1500
tatccgaagt	tcttcgttag	cctgatgaaa	tctttctatg	gcgatgccgc	gcagaaagag	1560
aacaactggg	gctatgactg	gctgccgaag	tggaaccaga	cctacgacgt	catcaagtat	1620
ttcaacatga	tggatgaagg	caaagtcacc	ggttatttct	gccagggtct	taaccgggtt	1680
gcgtccttcc	cggacaaaaa	caaagtgggtg	agctgcctga	gcaagctgaa	gtacatgggtg	1740
gttatcgatc	cgctgggtgac	tgaaacctct	accttctggc	agaaccacgg	tgagtccaac	1800
gatgtcgatc	cggcgtctat	tcagactgaa	gtattccgtc	tgccttcgac	ctgctttgct	1860
gaagaagatg	gttctatcgc	taactccggt	cgctgggttc	agtggcactg	gaaaggtcag	1920
gacgcgccgg	gcgaagcgcg	taacgacggt	gaaattcttg	cgggtatcta	ccatcatctg	1980
cgcgagctgt	accagtccga	aggtggtaaa	ggcgtagaac	cgctgatgaa	gatgagctgg	2040
aactacaagc	agccgcacga	accgcaatct	gacgaagtgg	ctaaagagaa	caacggctac	2100
gcgctggaag	atctctatga	cgctaattgg	gtgcttattg	cgaagaaagg	tcagttgctg	2160
agtagctttg	cgcactctcg	tgatgacggt	acaaccgcat	cttcttgctg	gatctacacc	2220
ggtagctgga	cagagcaggg	caaccagatg	gctaaccgcg	ataactccga	cccgtccggt	2280
ctggggaata	cgctgggatg	ggcctgggcg	tggccgctca	accgtcgcgt	gctgtacaac	2340
cgtgcttcgg	cggatatcaa	cggtaaaccg	tgggatccga	aacggatgct	gatccagtgg	2400
aacggcagca	agtggacggg	taacgatatt	cctgacttcg	gcaatgccgc	accgggtacg	2460
ccaaccgggc	cgtttatcat	gcagccggaa	gggatgggac	gcctgtttgc	catcaacaaa	2520
atggcggaag	gtccgttccc	ggaacactac	gagccgattg	aaacgccgct	gggcactaac	2580
ccgctgcata	cgaacgtggg	gtctaaccgc	gttgctcgtc	tgtatgaaca	agacgcgctg	2640
cggatgggta	aaaaagagca	gttcccgtat	gtgggtacga	cctatcgtct	gaccgagcac	2700
ttccacacct	ggaccaagca	cgcattgctc	aacgcaattg	ctcagccgga	acagtttgtg	2760
gaaatcagcg	aaacgctggc	ggcggcgaaa	ggcattaata	atggcgatcg	tgtcactgtc	2820
tccagcaagc	gtggctttat	ccgcgcgggtg	gctgtggtaa	cgcgtcgtct	gaaaccgctg	2880
aatgtaaagt	gtcagcaggt	tgaaacgggtg	ggtattccaa	tccactgggg	ctttgagggg	2940
gtcgcgcgta	aaggttatat	cgctaacaact	ctgacgccga	atgtcgggtga	tgcaaaactcg	3000
caaacgccgg	aatataaagc	gttcttagtc	aacatcgaga	aggcgtaa		3048

<210> 107
 <211> 885
 <212> DNA
 <213> E. Coli

<400> 107

atggctatgg	aaacgcagga	cattatcaaa	agggtccgcaa	ctaactccat	cacgccgcct	60
tctcaggtgc	gtgattacaa	agcagaagtc	gcaaaaactta	tcgacgtttc	cacctgtatc	120
ggctgtaaag	cctgtcaggt	ggcgtgttcg	gagtggaaacg	acatccgtga	tgaagtgggg	180
cactgcgtcg	gggtttacga	taaccccgcc	gatctgagcg	ccaagtcctg	gacgggtgatg	240
cgcttttagcg	aaaccgaaca	gaacggcaag	ctggagtggc	tgatccgtaa	agacggctgt	300
atgcactgtg	aagatcccg	ctgcctgaag	gcgtgcccg	ctgctgggtgc	aatcattcag	360
tacgctaacg	ggattgtcga	tttccagtcg	gaaaactgca	tcggctgtgg	ttactgcatt	420
gccgggtgtc	cgtttaatat	tccgcgcctc	aacaaagagg	ataaccgggt	atataaatgc	480
acgctctgcg	tcgatcgcgt	cagcgtcggc	caggaaccgg	cttgtgtgaa	aacctgtccg	540
accggggcta	tccacttcgg	caccaagaag	gagatgctgg	agctggcgga	acagcgcgtg	600
gcgaaactga	aagcgcgtgg	ttacgaacat	gctggcgctc	acaaccggga	aggggtcgg	660
ggtacgcacg	ttatgtacgt	gctgcatcac	gccgatcagc	cggagctgta	tcacggctctg	720
ccgaaagatc	cgaagatcga	cacctcggtg	agcctgtgga	aaggcgcgtt	gaaaccgctg	780
gcagcggctg	gctttattgc	cacttttgcc	gggttgattt	tccactacat	cggtattggc	840
ccgaataagg	aagtggacga	tgacgaggag	gatcatcatg	agtaa		885

<210> 108
 <211> 654
 <212> DNA
 <213> E. Coli

<400> 108

atgagtaagt	cgaaaaatgat	tgtgcgcacc	aaattttattg	atcgcgcctg	tcactggacc	60
gtgggtgattt	gcttcttcct	ggtggcgctg	tccgggattt	cgttcttctt	cccgcgcgtg	120
caatggctga	cgaaaacctt	cggtagcccg	cagatgggac	gcatttttgca	ccggttcttc	180
ggcattgcga	ttttcgtcgc	actgatgttt	atgtttgtgc	gttttgtgca	tcacaacatc	240
ccggataaga	aagatattcc	gtggctgttg	aacattgtcg	aagtattgaa	aggcaatgag	300
cataaagtgg	cggatgtcgg	taagtacaac	gccgggcaaa	agatgatgtt	ctggtcgatc	360
atgagcatga	ttttcgtgct	gctggtgacc	ggggtgatta	tctggcgctc	gtactttgcg	420
cagtacttcc	cgatgcaggt	tgttcgctac	agcctgctga	tccacgcggc	tgccgggtatc	480
atcctgatcc	acgccatcct	gatccatatg	tatatggcat	tttgggtgaa	aggatcgatt	540
aaagggatga	tcgaaggga	ggtaagtcgt	cgctgggcga	agaaacacca	tccgcgcgtg	600
tatcgtgaaa	tcgagaaggc	agaagcgaaa	aaagagagt	aagaagggat	ataa	654

<210> 109
 <211> 261
 <212> DNA
 <213> E. Coli

<400> 109

atggcgttgt	taatcactaa	aaaatgcac	aattgtgata	tgtgtgaacc	cgaatgcccg	60
aatgaggcga	tttcaatggg	agatcatatc	tacgagatta	acagcgataa	gtgtaccgaa	120
tgcgtagggc	actacgagac	accaacctgc	cagaagggtg	gcccgatccc	caatactatt	180
gtgaaagatc	cggcgcgtgt	cgagacagaa	gaacagttgt	gggataaatt	tgtgctgatg	240
caccacgcgg	ataaaattta	a				261

<210> 110
 <211> 1203
 <212> DNA
 <213> E. Coli

<400> 110

atgcaaagtg	ttgatgtagc	cattgttggc	ggcggcatgg	tggggctggc	ggttgcctgt	60
ggcttacagg	ggagcggcct	acgcgttgcc	gtactggagc	agcgcgtaca	ggaacctctg	120
gcggcgaatg	caccaccaca	actgcgcgtt	tcggctatca	atgccgccag	cgaaaaatta	180
ctcacccgtc	ttggcgtctg	gcaggacatt	ctctctcgta	gggccagctg	ttatcacggt	240
atggaagtgt	gggacaaaga	cagctttggt	cacatttcgt	ttgacgatca	aagcatgggc	300
tatagccatc	ttgggcatat	cgttgaaaat	tcagtgattc	actacgcgct	gtggaacaaa	360
gcgcatcagt	cgtcagatat	caactctgta	gccccgcag	aattacagca	ggtcgcctgg	420
ggagaaaatg	aaaccttcct	gacgctgaaa	gatggcagca	tgtaacggc	gcgtctggtg	480
attggcgcgg	acggcgctaa	ttcctggttg	cgcaacaaag	ccgatattcc	gctgactttc	540
tgggattatc	agcatcacgc	gctggtagcg	accattcgca	cggaagaacc	gcatgatgcg	600
gtggcgcggc	aggttttcca	tggcgaaggc	attctggcct	ttttaccgct	tagcgatccg	660
catctttgct	cgattgtctg	gtcactgtcg	ccagaggaag	cgcagcggat	gcagcaggca	720
agtgaagacg	aatttaatcg	cgcgttaaat	atcgcttttg	ataatcgctt	gggcttatgc	780
aagggttgaga	gcgcgcgtca	ggtgttccca	ctgacggggc	gttatgcgcg	ccagtttgcc	840
tcgcaccgtc	tggcgcgtgt	gggcgacgcc	gcacatacca	ttcaccgcgt	ggcggggcag	900
ggggtaaatc	tcggctttat	ggatgctgca	gagctgattg	ccgaactgaa	acggttgcat	960
cgtcagggga	aagacatcgg	gcagtacatt	tatctgcgtc	gctatgagcg	tagccgcaag	1020
cacagtgcgg	cgttgatgct	ggctggtatg	cagggattcc	gcgatctgtt	ttccgggtacc	1080
aatccggcga	aaaaactgct	gcgtgatatt	ggtttgaaac	tggccgacac	gcttcctggc	1140
gttaagccgc	aacttatccg	ccaggcaatg	ggattaaacg	atttgcctga	atggctgcgt	1200
taa						1203

<210> 111

<211> 1179

<212> DNA

<213> E. Coli

<400> 111

atgagcgtaa	tcacgcgcgg	tggcggcatg	gcggggcgca	cgctggcgct	ggctattttcc	60
cggttaaagtc	acggggcgct	gccggtacat	ttgattgaag	cgactgcgcc	agagtcacat	120
gctcatccgg	gctttgatgg	acgagcgata	gcgctggcgg	cgggtacctg	tcagcaactg	180
gcgcgcacgc	gcgtctggca	atctctggcg	gattgcgcaa	ctgccatcac	caccgtgcat	240
gtcagcgatc	gtggtcacgc	tggatttgct	accctcgccg	cagaagatta	ccaactggcg	300
gcgctgggac	aggttgtcga	attgcacaat	gtcgggcaac	ggctgtttgc	attgctgcgt	360
aaagcacctg	gcgtaacgct	gcattgccct	gatcgcgtgg	ctaacgttgc	ccgtactcag	420
agtcacgttg	aagtgcgcgt	ggagagtggc	gagacgctga	cgggccgcgt	gctggtagca	480
gctgatggca	cccatcagc	gttagccacc	gcgtgcggcg	ttgactggca	gcaggagcct	540
tacgaacaac	tggccgtgat	tgccaacgtt	gctacttccg	ttgcgcatga	agggcgcgct	600
tttgaacgct	ttacgcaaca	tggcccgcgt	gcgatgttgc	cgatgtctga	cggacgctgt	660
tcgctgggtc	ggtgtcatcc	actggaacgg	cgcgaaagag	tggtgtcgtg	gagtgcagag	720
aagttttgcc	gtgaaactcca	gtcggccttt	ggctggcgac	ttgggaaaaat	taccacgct	780
ggtaaacgca	gtgcttatcc	gctggcgtaa	accacgcgg	ccagatctat	taccatcgt	840
accgtgctgg	tgggcaatgc	ggcgcaaaact	ctgcacccga	ttgccgggca	agggtttaac	900
ctcggtatgc	gagatgtgat	gagtcttgcg	gaaaccctga	ctcaggcgca	ggagcgcgga	960
gaagacatgg	gggattacgg	cgtattgtgc	cgttatcagc	agcgtcgaca	gagcgatcgc	1020
gaagcaacca	ttggcgtcac	ggacagcctt	gtacatcttt	ttgccaaaccg	ttgggcaccg	1080
ctggttgctg	ggcgcaacat	cgggctgatg	acgatggaat	tattcacccc	ggcacgcgat	1140
gtgctggcgc	agcgcaccct	cggttgggtg	gcgcgttga			1179

<210> 112

<211> 1326

<212> DNA

<213> E. Coli

<400> 112

atgagtgaga	tatcccggca	agagtttcag	cgctcgccgtc	aggccctggt	ggagcaaagt	60
caaccgggca	gcgcgcgcgt	gattttttgct	gcaccagaag	taacacgtag	cgccgacagc	120
gaatacccct	atcgtcagaa	cagtgaacttc	tggtacttca	ccggctttta	cgaaccggaa	180
gcggtgctgg	tgctgattaa	aagcgatgac	actcataacc	acagcgttct	gtttaaccgc	240
gttcgcgacc	tgacggcgga	gatctggttt	ggccgtcgct	taggccagga	tgccgcgcca	300
gagaaactgg	gcgttgaccg	cgcaactggca	ttcagcgaaa	tcaatcagca	actttatcaa	360
ctacttaacg	gcctggatgt	ggtttaccat	gcccagggcg	aatatgcata	tgctgatgta	420
atcgtgaaca	gtgcgctgga	aaaactgcgt	aaaggttcgc	ggcaaaatct	caccgcaccg	480
gcaacgatga	tcgactggcg	tcctggtggt	catgaaatgc	gcctgttcaa	atcgccagaa	540
gagattgccc	tactccgccc	cgcgggagaa	atcaccgcca	tggcacatac	acgggcgatg	600
gaaaaatgcc	gtccgggaat	gttcgagtac	catctggaag	gcgaaattca	ccacgaattt	660
aaccgccacg	gtgcgcgcta	tccgtcctat	aacaccattg	tcggcagcgg	tgaaaacggc	720
tgcattctgc	actacaccga	aaacgagtg	gaaatgcgcg	acggcgacct	ggtgttgatt	780
gacgcgggtt	gtgaatacaa	aggttacgct	ggcgatatta	cccgcacctt	cccggccaac	840
ggcaaatcca	cccaggccca	gcgtgaaatc	tacgacattg	tgctggagtc	tctcgaaacc	900
agcctgcgcc	tgtatcgccc	gggaacttcc	attctggaag	tactggtga	agtggcgcg	960
atcatggtta	gcggcctggt	aaaactcggc	atcctgaaag	gtgatgttga	tgaactgatc	1020
gctcagaacg	cccatcgccc	tttctttatg	catggcctta	gccactggtt	aggactggat	1080
gtccatgacg	tgggtgttta	tggtcaggat	cgctcgcgca	ttctggaacc	gggcatggta	1140
ctgaccgtag	agccagggct	gtatattgcg	ccggatgcag	aagtgccaga	acaatatcgc	1200
ggtatcggca	ttcgtattga	agacgacatt	gtgattaccg	aaaccggtaa	cgaaaacctc	1260
accgccagcg	tggtgaaaaa	gccggaagaa	atcgaagcgt	tgatggttgc	tgcgagaaag	1320
caatga						1326

<210> 113

<211> 585

<212> DNA

<213> E. Coli

<400> 113

atgcttatgt	ctatacagaa	cgaaatgcct	ggttacaacg	aatgaacca	gtatctgaac	60
caacaaggga	cgggtctgac	cccagctgag	atgcatggtt	taatcagcgg	gatgatatgt	120
ggcggtaacg	atgacagctc	atggctaccg	ctacttcacg	acctgacgaa	cgaaggcatg	180
gctttcggtc	atgagctggc	acaggcactg	cgtaaaatgc	actctgccac	cagcgatgcc	240
ctgcaggatg	acggcttcct	tttctagctt	tatctgcctg	atggcgatga	tgctcagcgtt	300
ttcgatcggg	ctgatgcatt	ggcagggttg	gtcaatcact	tcctgcttgg	tcttggcggtt	360
acgcaaccga	agctggataa	agtgaccggc	gaaaccggtg	aagctatcga	cgatctgcgt	420
aacattgcgc	aactgggtta	cgacgaagac	gaagatcagg	aagagcttga	aatgtcgcgtt	480
gaagagatca	tcgaatacgt	tcgtgttgcc	gcgctgttat	gccacgacac	ctttactcat	540
ccgcaaccga	ccgcgccaga	agtacaaaaa	ccgactctac	actaa		585

<210> 114

<211> 363

<212> DNA

<213> E. Coli

<400> 114

atgttaaagc	tatttgcaaa	gtacacctct	attggtgtgc	tgaacaccct	tatacactgg	60
gtgggtttttg	gtgtttgtat	ctatgtcgcg	catacaaaacc	aagctcttgc	aaacttcgca	120
ggtttcggtt	tggctgtgag	ctttagcttc	ttcgcgaaatg	caaaattcac	attcaaggca	180
tcgactacaa	cgatgcgcta	catgctatat	gttgggttca	tggggacact	gagtgtctact	240
gttggtatggg	ctgctgatag	atgcgcactt	ccccgatga	taactcttgt	caccttctcc	300
gccatcagcc	tgggtgtgcgg	tttcgtctat	tcaaagttca	ttgtcttttag	ggatgcgaaa	360
tga						363

<210> 115

<211> 921

<212> DNA
<213> E. Coli

<400> 115

atgaagatat	ctctttagt	tcctgtcttc	aatgaagaag	aagcgatacc	aattttttat	60
aaaacggtac	gtgaattcga	agaattgaag	tcatatgaag	tggaaatcgt	tttcataaat	120
gacggcagca	aagacgctac	ggagtcaatc	attaatgctc	tggctgtttc	agatcctcta	180
gttggtccgc	tgtcatttac	acgcaacttt	ggtaaagaac	cagcattggt	tgcaggggta	240
gaccatgcaa	ccggggatgc	gataatccca	attgatgttg	acctgcaaga	cccgattgag	300
gttattcctc	atcttattga	aaaatggcaa	gcagggtgctg	atatggttct	tgctaaaaga	360
tctgaccgct	caactgatgg	acgcctgaag	cgaaaaacgg	ctgagtgggt	ctataagctc	420
cacaataaaa	taagcaatcc	taaaattgaa	gagaatgttg	gtgatttcag	gctgatgagc	480
cgtgatgttg	tcgaaaatat	taaacttatg	ccagaacgaa	accttttcat	gaaagggtatt	540
ctgagctggg	taggaggaaa	gacagatatt	gttgaatacg	tgcgagcggg	aagaattgct	600
ggagatacaa	aattttaatgg	atggaaactt	tggaaatttag	cacttgaggg	tattacaagc	660
ttttccacat	tccctcttcg	catctggaca	tacatagggg	tagtggttagc	cagtgtagca	720
tttattttatg	gggctggat	gatttttagat	actatcatat	ttggaaatgc	tgttagggga	780
tatccttcac	tacttgtttc	aatactgttt	ttaggtggaa	ttcagatgat	tggaatagga	840
gtattaggtg	aatatattgg	acgcacatac	attgaaacca	aaaaacgccc	gaaatacatc	900
atcaagagag	tcaaaaaatg	a				921

<210> 116
<211> 1332
<212> DNA
<213> E. Coli

<400> 116

atgaataaag	caataaaaagt	atcattgtat	atatcttttg	ttttgattat	ttgcgcctta	60
tctaaaaaca	taatgatgtt	aaatacatct	gatttcggaa	gagccattaa	gccattaatt	120
gaagacatac	cagcatttac	atatgactta	cctttattgt	ataaattgaa	aggtcatatt	180
gattcaattg	atagctatga	gtatataagt	tcatatagtt	atattttgta	tacatacgtc	240
ctgtttatta	gcattttttac	tgaatatctt	gatgctaggg	tggtatcggt	atttctaaaa	300
gtaatatata	tttattcatt	atatgcgata	tttacttcat	atataaaaaac	agaaagggtat	360
gtaactttat	ttacattctt	tatttttagct	tttcttatgt	gttcttcatc	aacactgtca	420
atgtttgcat	cattctatca	agagcaaata	gttataattt	tccttccatt	tttggtgtat	480
tcattaacat	gcaaaaacaa	taaatctatg	cttttgctat	ttttttcggt	gctaataata	540
tctactgcta	aaaatcaatt	tatattaacc	ccactaatag	tgtattcata	ttatattttt	600
tttgatagac	acaaactaat	tattaaatct	gtaatatgcg	tggtgtgctt	gcttgcgctca	660
atatttgcaa	tatcttattc	aaaagggtgtt	gttgaattaa	ataagtacca	tgcaacatac	720
ttcggtagtt	atctttatat	gaaaaacaac	gggtataaaa	tgccatcgta	tggtgatgat	780
aagtgtgttg	ggtagatgc	ctggggtaat	aaattcgaca	tatcatttgg	cgcaacccca	840
acagaagttg	gaacggaatg	tttcgaatct	cataaagatg	aaacgttttc	gaatgcactc	900
tttttattgg	ttagcaaacc	aagcaccatc	ttcaaaacttc	catttgatga	tggtgtgatg	960
tctcagtata	aagaaaatta	tttccatgta	tataaaaaaac	tacacgtaat	atatggagaa	1020
tcaaacatac	taacgactat	tactaacata	aaagacaata	tattttaaaaa	cattagattt	1080
atatcattgt	tattattttt	tattgcttct	atttttatta	gaaataataa	aataaaggca	1140
tctttatttg	tagtatctct	ttttggaata	tctcaatttt	atgtgtcatt	tttcggggaa	1200
ggatatagag	atttaagcaa	gcattttatt	ggaatgtatt	tttcgttcga	cctttgctta	1260
tacataacag	tcgttttttt	aattttataaa	ataattcaaa	gaaatcaaga	caatagcgat	1320
gtaaagcact	aa					1332

<210> 117
<211> 249
<212> DNA
<213> E. Coli

<400> 117

atgggcattc	tgtcatggat	tatTTTTTggg	cttattgccc	gtattctggc	gaagtggatc	60
atgccaggta	aagatggagg	tggattcttt	atgactatcc	tgctggggat	agtcgggtgcc	120
gtagtcggcg	gatggatcag	cacgctgttt	ggctttggta	aagtcgatgg	cttcaatttt	180
ggcagcttcg	tggttgccgt	tattggtgcg	attgtcgtgc	tatttatcta	caggaagatt	240
aaaagttaa						249

<210> 118
 <211> 183
 <212> DNA
 <213> E. Coli

<400> 118						
atgggcaaag	caacgtatac	cgtgaccgtc	accaataaca	gcaatggcgt	ttctgtcgat	60
tatgaaacag	agacgccgat	gactttgctg	gtgccagaag	tgccggctga	agtataaaaa	120
gatctgggtga	ataccgtacg	ttcttatgac	acggaaaacg	aacatgatgt	ttgtgggttg	180
taa						183

<210> 119
 <211> 360
 <212> DNA
 <213> E. Coli

<400> 119						
atgcttcaaa	tcccacagaa	ttatattcat	acgcgctcaa	cgcctttctg	gaataaacia	60
actgcacctg	ccggaatatt	cgaacgtcat	cttgataaag	gaacgcgcc	gggggtttac	120
ccacgccttt	ccgttatgca	tggggcggtc	aaatatctcg	gctacgctga	tgaacacagt	180
gcagagcctg	atcagggtgat	ccttatcgaa	gcggggcagt	ttgcgggtgt	ccctccagaa	240
aagtggcaca	acattgaagc	catgactgac	gatacttatt	tcaacattga	cttcttcgtg	300
gctcctgaag	tcctgatgga	aggtgcgcaa	caacggaaag	tcattcataa	cgggaaatga	360

<210> 120
 <211> 741
 <212> DNA
 <213> E. Coli

<400> 120						
gtgaagtcca	aagttatcgc	cctggcggca	ttaatgggta	ttagcgggat	ggcagcgcag	60
gctaacgaat	tgccggatgg	accgcatatt	gtcacctccg	gtacggcaag	cgtggatgcg	120
gtgccagaca	ttgccactct	tgcgattgaa	gttaacgtgg	ccgcgaagga	tgccgctact	180
gccaaagaaac	aggcagatga	gcgcgtcgca	caatacattt	ccttccttga	actcaatcag	240
atcgcgaaaa	aagatatcag	ctcagcgaa	ttacgcaccc	agccagatta	tgattatcag	300
gatggtaaaa	gtatccttaa	aggctaccgc	gctgtgagaa	cggtggaagt	cacgctccgt	360
cagttagaca	aactgaattc	cttgctggat	ggcgcgctga	aggcgggtct	taacgaaatt	420
cgttctgtgt	cgctgggcgt	ggcgagccg	gatgcctata	aagacaaagc	gcgtaaggca	480
gcgattgata	acgcgattca	tcaggcgag	gaactggcga	acggctttca	tcgtaaaactg	540
gggccgggtat	atagcgtgcg	ctaccatgtt	tccaactatc	agcccagccc	aatggtgctg	600
atgatgaaaag	ccgatgccgc	gccggtgtcc	gcccaggaaa	cttacgagca	ggccgctatt	660
cagtttgatg	atcaggtcga	tgtggtcttc	cagttagaac	ctgtggatca	acaacccgct	720
aaaacacctg	cagcacaata	a				741

<210> 121
 <211> 1395
 <212> DNA
 <213> E. Coli

<400> 121						
gtgttattac	tggtatgcgtg	ctcgcaaatg	tgcccgatcat	tcagacgatt	ccagacagtg	60

tttcataatt	cctccatttt	tctcccttat	tggctggcta	cactagtatc	attccgcgaa	120
acgttttcagg	aagagaaact	cttaacgatg	aaaggtagtt	ataaatcccc	ttgggtaatc	180
gtaatcgtgg	tggttatcgc	cgccatcgcc	gcattctggt	tctggcaagg	ccgcaatgac	240
tcccggagtg	cagccccagg	ggcgacgaaa	caagcgcagc	aatcgccagc	gggtggtcga	300
cgtggtatgc	gttcgggccc	attagccccg	gttcaggcgg	cgaccgccgt	agaacaggca	360
gttcgcggtt	acctcaccgg	gcttggcacc	attaccgccc	ctaataccgt	tacggtgcgc	420
agccgcgtgg	acggccaact	gatagcgtta	catttccagg	aaggccagca	ggtcaaagca	480
ggcgatttac	tggcagaaat	tgaccccagc	cagttcaaag	ttgcattagc	acaagcccag	540
ggccaactgg	caaaaagataa	agccacgctt	gccaacgccc	gccgtgacct	ggcgcgttat	600
caacaactgg	caaaaaccaa	tctcgtttcc	cgccaggagc	tggatgccc	acaggcgctg	660
gtcagtga	ccgaaggcac	cattaaggct	gatgaagcaa	gcgttgccag	cgcgagctg	720
caactcgact	ggagccggat	taccgcacca	gtcgatggtc	gcgttggctc	caagcaggtt	780
gatgttggtg	accaaattctc	cagtggatgat	accaccggga	tcgtggatgat	caccagacg	840
catcctatcg	atttagtctt	tacctgccc	gaaagcgata	tcgtaccgt	agtgcaggcg	900
cagaaagccg	gaaaaccgct	ggtggtagaa	gcctgggatc	gcaccaactc	gaagaaatta	960
agtgaaggca	cgctgttaag	tctagataac	caaatcgatg	ccactaccgg	tacgattaaa	1020
gtgaaagcac	gctttaataa	tcaggatgat	gcgctgtttc	ccaatcagtt	tgttaacgcg	1080
cgcatgttag	tcgacaccga	acaaaacgcc	gtagtgatcc	caacagccgc	cctgcaaattg	1140
ggcaatgaag	gccattttgt	ctgggtgctg	aatagcgaaa	acaaggtcag	caaacatctg	1200
gtgacgccgg	gcattcagga	cagtcagaaa	gtggtgatcc	gtgcaggtat	ttctgcgggc	1260
gatcgcgtgg	tgacagacgg	cattgatcgc	ctgaccgaag	ggcgcaaagt	ggaagtgggtg	1320
gaagcccaga	gcgccactac	tccggaagag	aaagccacca	gccgcgaata	cgcgaaaaaa	1380
ggagcacgct	cctga					1395

<210> 122

<211> 3123

<212> DNA

<213> E. Coli

<400> 122

atgcaggtgt	tacccccgag	cagcacaggc	ggcccgtcgc	gcctgtttat	tatgcgtcct	60
gtggccacca	cgctgctgat	ggtggcgatc	ttactcgccg	ggattatcgg	ttatcgcgcc	120
ctgcccgttt	cggcgctgcc	ggaagtggac	tatccgacca	ttcaggtggg	cacgctctac	180
ccaggtgcca	gcccgatgt	catgacctct	gccgttaccg	cgccgctaga	acgccagttc	240
gggcagatgt	ctggcctgaa	acagatgtcg	tcgcaaagt	ccggcggtgc	gtcagttatc	300
actttgcagt	tccagctaac	attaccgctc	gatgtcgccg	agcaggaagt	gcaggccgcg	360
attaacgctg	cgaccaactt	gttgccgagc	gatctgccta	acccgccggt	ttacagcaaa	420
gtgaacccgg	cagatccgcc	gatcatgacg	ctcgccgtca	cctcaaccgc	catgccgatg	480
acgcaagtgg	aagatatggt	ggaaacccgc	gtcgcgcaga	aaatctcgca	gatttccggc	540
gtcggcctgg	tgacgctttc	cggcggtcag	cgtccggctg	ttcgcgtcaa	acttaacgct	600
caggcgattg	ccgccctcgg	cctgaccagc	gaaaccgtgc	gcaccgccat	taccggcgct	660
aacgttaact	cggcaaaaagg	tagcctcgac	ggcccttccc	gtgcggtcac	gctttccgcg	720
aacgaccaga	tgcaatccgc	cgaagagtat	cgccagctaa	tcatcgctta	ccagaacggc	780
gcgccaattc	gtctgggcca	tgctcgcaact	gtagagcaag	gtgcagaaaa	cagctggctc	840
ggcgcgtggg	cgaacaaaaga	acaggccatt	gtgatgaatg	ttcagcgcca	gcccgggtgt	900
aacattatct	ccaccgccga	cagcattcgg	cagatgctgc	cacagctcac	tgagagtctg	960
ccgaaatcgg	tgaagggtgac	agtgttttcc	gatcgacca	ccaatatccg	cgcatccgtc	1020
gatgatactc	agtttgaatt	gatgatggct	atcgcgctgg	tagtcatgat	tatctacctg	1080
tttttgcgca	atattccggc	gaccatcatt	cccgggtgtg	ctgtaccgct	gtcgttaatc	1140
ggcactttcg	cggttatggg	gtttctcgat	ttttcaatca	ataacctgac	actgatggcg	1200
ttaactatcg	ccaccggatt	cgtggtcgat	gacgccatcg	tggtgatcga	aaacatttcc	1260
cgctatatcg	aaaaaggcga	aaaaccgttg	gcggcggcgc	tcaagggcgc	aggtgaaatc	1320
ggctttacca	ttatctcgct	gaccttctca	ctgattgcgg	tgttgatccc	actgctgttt	1380
atgggcgata	tcgtcgggcg	actgttccgc	gaatttgcta	ttaccctggc	ggtagcgatt	1440
ttgatctcag	cgggtgggtg	gctgaccctg	acaccgatga	tgtgcgcgcg	gatgctcagc	1500
caggagtcgt	tgcgtaaaaca	gaaccgcttc	tcccgtgcct	cggaaaaaat	gttcgacagg	1560
ataatcgccg	cctatgggtcg	tggactggcg	aaagtgtctga	atcatccgtg	gctgacctta	1620

agcgtggcac	tcagcacgct	gctgcttagc	gtgctgctgt	gggtgttcat	tccgaaaggt	1680
ttcttcccgg	tacaggacaa	tggcattatt	cagggcactt	tgcaggcacc	gcaatccagc	1740
tcctttgcc	atatggccca	gcgacaacgc	caggtcgcg	acgtgatttt	gcaggatccg	1800
gcagtgcaaa	gcctgacctc	atttgttggc	gttgatggca	ctaaccgcgc	gctgaacagt	1860
gcacgtttac	aaatcaacct	caaaccgttg	gatgaacgtg	atgatcgggt	gcaaaaagtc	1920
atcgcccgtc	tgcaaacggc	ggtagataaa	gtgccggg	tcgatctctt	cctgcaacca	1980
acgcaggatc	tgactattga	tactcaggtc	agccgcaccc	agtaccagtt	taccttgca	2040
gccacgtcac	tggatgcgct	cagtacctgg	gtgccacagt	tgatggaaaa	actccagcaa	2100
ctgccacagc	tttctgatgt	ctccagcgac	tggcaggaca	aagggtggt	ggcgtatgtc	2160
aatgttgatc	gcgacagcgc	cagccgtctg	gggatcagca	tggcggatgt	cgataacgcc	2220
ctgtacaacg	cgtttggtca	gcggctgatt	tccactat	atactcaggc	caaccagtat	2280
cgcggtggtg	tggagcacia	caccgaaaat	accccaggcc	tcgcggcgct	ggataccatt	2340
cgctgacca	gcagcgacgg	cgcggtggtg	ccgctaagct	caattgccaa	aattgagcag	2400
cgttttgcgc	cgctctccat	caaccatctg	gatcagttcc	cggtaacgac	catctccttt	2460
aacgtgccgg	ataactattc	gctgggcat	gcgggtgcagg	cgattatgga	caccgaaaag	2520
acgctgaatc	tgccgggtga	tatcaccacg	cagttccagg	gcagcaccct	cgcttccag	2580
tcggcgctgg	gcagcactgt	ctggctgatt	gtcgcgcg	tgggtggcat	gtatatcgtg	2640
ctcggcattc	tgtacgagag	ctttattcac	ccgatcacca	ttctctcgac	gctaccacc	2700
gcaggggttg	gcgcactgct	ggcggtgctg	attgctggta	gcgaactgga	tgtgattg	2760
attatcgcca	ttattttgc	gatcggtatc	gtgaagaaga	acgccatcat	gatgatcgac	2820
ttcgcgctgg	ctgctgagcg	cgagcaaggc	atgtcgccgc	gcgaggcaat	ctaccaggct	2880
tgtctgttgc	gttttcgtcc	gatectgatg	accactctgg	cggtctgct	tggcgcgctg	2940
ccgctgatgt	tgagtaccgg	ggtcggcgcg	gaactgcgtc	gtccgttagg	tatcggcag	3000
gtcggcggtc	tgattgtcag	ccaggtgctg	acgtgttta	ccacgccgg	gatttatttg	3060
ctgttcgacc	gcctggcatt	gtggacaaa	agccgcttg	cccgtcatga	agaggaggcg	3120
taa						3123

<210> 123

<211> 3078

<212> DNA

<213> E. Coli

<400> 123

gtgaagt	ttgccctctt	catttaccgc	ccggtggcga	cgattttact	gtcggttgcc	60
attaccctgt	gcggcatact	gggcttccgt	atgctgccc	tcgccccgct	gccgcaggtc	120
gattttccgg	tgattatcgt	cagcgccctc	ctgcccgg	cgtcaccaga	aacaatggcg	180
tcttccgttg	ccacgccgct	ggagcgctca	cttgggcgca	ttgccggagt	cagtgaatg	240
acctccagca	gttcgctcgg	cagcacgcgt	attattttgc	agtttgattt	tgaccgggat	300
atcaacggcg	cagcgcggtga	tgtgcaggcg	gcgatcaacg	ctgcacaaag	tttgctgccc	360
agtgggatgc	ccagccgccc	gacctatcgc	aaagcgaacc	cgtcggatgc	gccaattatg	420
atcctcacgc	tgacgtccga	tacttattcg	caggggtgaac	tgtacgattt	cgctcgcagc	480
cagctggctc	cgacgatttc	gcaaatcgac	ggtgttggtg	atgtcgatgt	cggaggcagc	540
tacttgccc	ccgtacgcgt	cgggctgaat	ccgcaggcgc	tgtttaatca	gggcgtgtcg	600
ctggacgacg	tacgcaccgc	cgtcagcaat	gccaacgtgc	gtaaaccgca	gggcgcgctg	660
gaagatggca	ctcaccgctg	gcagatccag	accaatgatg	agctaaaaac	cgccgctgaa	720
tatcagccgt	tgattattca	ctacaacaac	ggcggcgcgg	ttcgtctggg	cgatgtggcg	780
acggtgaccg	actcagtgca	ggatgtgcgc	aacgcgggga	tgaccaacgc	caaaccggct	840
attttactga	tgatccgcaa	actgccggaa	gccaatatta	tccagacgg	tgacagcatc	900
cgggcaaaat	taccggagtt	gcaggaaacc	attccggcgg	cgattgatct	gcaaattgcc	960
caggatcgct	ccccaccat	tcgcgcctcg	ctggaagaag	tcgagcaaac	gctgattatc	1020
tcgggtggcg	tgggtgattct	ggtggtgttt	ttattcctgc	gctcgggtcg	cgccactatt	1080
attcccgcgg	tttcggtgcc	ggtttcgctg	attggtacgt	ttgcggcgat	gtacctgtgc	1140
ggattcagtc	tcaataacct	ttcggttaatg	gcgctcacca	tcgctactgg	tttcgtgggtg	1200
gatgacgcca	tcgtggtgct	ggaaaacatt	gcacgtcatc	tggaaagcggg	aatgaaaccg	1260
ttgcaagccg	cactgcaagg	tactcgcgaa	gtcgggttta	cggtgctgtc	gatgagtctg	1320
tactggtgg	cggtgttcct	gccgtgctg	ttgatgggcg	gattgccggg	ccgactgtta	1380
cgcgaatttg	ccgtgacgct	ttctgtcgcc	attggtatat	cggtgctggt	ttctctgaca	1440

ttaacgccaa	tgatgtgtgg	ctggatgctg	aaagccagca	agccgcgcga	gcaaaagcga	1500
ctgcggtggt	ttggtcgcat	gttggtagcc	ctgcaacaag	gctacggcaa	gtcactaaaa	1560
tgggtgctca	atcatacccg	tctgggtggc	gtgggtgctgc	ttggcaccat	tgcgctgaat	1620
atctggctgt	atatctcgat	ccgaaaacc	ttcttcccg	agcaggacac	tggcgtgttg	1680
atgggcgga	ttcaggcgga	tcagagtatt	tcgtttcagg	cgatgcgcgg	taagttgcag	1740
gatttcatga	aaattatccg	tgacgatccg	gcagtggata	atgtcaccgg	ctttacaggc	1800
ggttcgcgag	tgaacagcgg	gatgatgttt	atcacctca	agccacgcga	cgaacgcagc	1860
gaaacggcgc	agcaaattat	cgaccgtctg	cgcgtaaaac	tggcgaaaga	accggggggcg	1920
aatctgttcc	tgatggcggt	acaggatatt	cgcggttggtg	ggcgtcagtc	gaacgccagc	1980
taccagtaca	cgttgttatc	cgacgacctg	gcggcactgc	gagaatggga	gccgaaaatc	2040
cgcaaaaaac	tggcgacgtt	gccggaactg	gcggacgtga	actccgatca	gcaggataac	2100
ggcgcgagga	tgaatctggt	ttacgaccgc	gacaccatgg	cacggctggg	aatcgacgta	2160
caagccgccca	acagtctggt	aaataacgcc	ttcggtcagc	ggcaaattctc	gaccatttac	2220
cagccgatga	accagtataa	agtggatgat	gaagtggatc	cgcgctatac	ccaggacatc	2280
agtgcgctgg	aaaaaatggt	cgttatcaat	aacgaaggca	aagcgatccc	gctgtcgtat	2340
ttcgctaaat	ggcaaccggc	gaatgcccc	ctatcggtga	atcatcaggg	attatcggcg	2400
gcctcgacca	tttcgtttaa	cctgccgacc	ggaaaatcgc	tctcgacgc	cagtgcggcg	2460
atcgatcgcg	caatgaccca	gcttggtgtg	ccttcgacgg	tgcgcggcag	ttttgccggc	2520
acggcgcgag	tgttccagga	gacgatgaac	tcgcaggatga	tcctgattat	cgccgccatc	2580
gccacgggtg	atatcggtgt	gggtatcctt	tacgagagtt	acgtacatcc	gctgacgatt	2640
ctctccaccc	tgccctcggc	ggggtttgga	gcgctgttgg	cgctggagct	gttcaatgcc	2700
ccgttcagcc	taatcgccct	gatagggatc	atgctattaa	tcggcatcgt	gaagaaaaac	2760
gccattatga	tggtcgattt	tgcgcttgaa	gccaacggc	acggtaacct	gacgccgcag	2820
gaagctattt	tccaggcctg	tctgctgcgt	tttcgcccga	ttatgatgac	taccctggcg	2880
gcgctgtttg	gtgcgctgcc	gctggtattg	tcgggcggcg	acggctcgga	gctgcggcaa	2940
ccctggggga	tcaccattgt	cggcgactg	gtaatgagcc	agctccttac	gctgtatacc	3000
acgccggtgg	tgtatctctt	tttcgaccgt	ctgcggctgc	gtttttcgcg	taaacctaaa	3060
caaacggtaa	ccgagtaa					3078

<210> 124

<211> 1416

<212> DNA

<213> E. Coli

<400> 124

atgacagatc	ttcccagacag	cacccgttgg	caattgtgga	ttgtggcttt	cggctttcttt	60
atgcagtcgc	tggacaccac	catcgtaaac	accgcccttc	cctcaatggc	gcaaagcctc	120
ggggaaaagtc	cgttgcatat	gcacatggtc	attgtctctt	atgtgctgac	cgtggcggtg	180
atgctgcccg	ccagcggtcg	gctggcgga	aaagtcggcg	tgcgcaatat	tttctttacc	240
gccatcgctgc	tgtttactct	cggttcaactg	ttttgcgcgc	tttccggcac	gctgaacgaa	300
ctgttgctgg	cacgcgcgtt	acagggcggt	ggcggcgcga	tgatgggtgcc	ggtcggcaga	360
ttgacgggtga	tgaaaaatcgt	accgcgcgag	caatatatgg	cggcgatgac	ctttgtcacg	420
ttaccgggtc	aggtcgggtcc	gctgctcggt	ccggcgctcg	gcggtctgct	ggtggagtac	480
gcacgtgggc	actggatctt	tttgatcaac	attcgggtgg	ggattatcgg	tgcgatcgcc	540
acattgctgt	taatgccgaa	ctacaccatg	cagacgcggc	gctttgatct	ctccggattt	600
ttattgctgg	cggttggcat	ggcggtatta	accctggcgc	tggacggcag	taaaggtaca	660
ggtttatcgc	cgctgacgat	tgcaggcctg	gtcgcagttg	gcgtgggtggc	actggtgctt	720
tatctgctgc	acgccagaaa	taacaaccgt	gccctgttca	gtctgaaact	gttccgtact	780
cgtacctttt	cgctgggcct	ggcggggagc	tttgcgggac	gtattggcag	tggcatgttg	840
ccctttatga	caccggtttt	cctgcaaatt	ggcctcggtt	tctcgccgtt	tcatgccgga	900
ctgatgatga	tccgatgggt	gcttggcagc	atgggaatga	agcgaattgt	ggtacagggtg	960
gtgaatcgct	ttgggttatcg	tcgggtactg	gtagcgacca	cgctgggtct	gtcgtggttc	1020
accctgttgt	ttatgactac	cgccctgctg	ggctgggtact	acgtttttgcc	gttcgtcctg	1080
tttttacaag	ggatgggtcaa	ctcgacgcgt	ttctcctcca	tgaacaccct	gacgctgaaa	1140
gatctcccgg	acaatctggc	gagcagcggc	aacagcctgc	tgctgatgat	tatgcaattg	1200
tcgatgagta	tcggcgtcac	tatcgccggg	ctgttgctgg	gacttttttg	ttcacagcat	1260
gtcagcgctcg	acagcggcac	cacacaaacc	gtcttttatgt	acacctgggt	tagcatggcg	1320

ttgatcatcg	cccttcggcg	gttcatcttt	gccagagtgc	cgaacgatac	gcatcaaaat	1380
gtagctat	cgcggcgaaa	aaggagcgcg	caatga			1416

<210> 125
 <211> 1035
 <212> DNA
 <213> E. Coli

<400> 125						
atggaaattc	gcataatgct	atztatatta	atgatgatgg	ttatgcctgt	gagctatgcg	60
gcatgttata	gtgagttatc	tgttcagcac	aacttggttg	ttcaggggga	ttttgcactt	120
actcaaacac	aaatggcgac	atatgagcat	aattttaatg	attcgtcatg	cgtaagtaca	180
aatactatca	cccctatgag	cccgtcggat	attattgttg	gactttataa	cgataccata	240
aaattaaatt	tacattttga	atggaccaat	aaaaacaaca	tcacgttgtc	aaataatcag	300
accagtttca	ccagtgggta	ttcagttacg	gtgacacctg	cggccagtaa	tgcaaaagtg	360
aatgtttctg	cgggggcgcg	cggttcagtg	atgattaatg	gtgttgcgac	attatccagt	420
gcttcatcat	cgacacgcgg	gagtgccgca	gtacaatttc	tactgtgttt	attaggtggc	480
aagtcattgg	atgcatgtgt	aaatagctac	agaaatgcat	tggcacaaaa	tgccaggtgc	540
tattccttta	atctgacatt	gtcatacaac	ccgataacca	caacctgcaa	accggacgat	600
ttattaatta	ctttagacag	tattcccgtt	tcacaattac	cagccacagg	taacaaagca	660
acaataaata	gtaaacaagg	ggatattatt	ctgcgttgta	aaaattttatt	aggtcaacaa	720
aatcaaacat	cacggaaaat	gcaggtgtat	ttatcaagtt	ctgacttggt	aaccaacagc	780
aacacaatac	tgaaaggtgc	ggaagataat	ggcgtaggat	ttattcttga	aagtaatggt	840
tcgccagtca	cacttttaaa	tatcactaac	agcagtaaag	gatatacaaa	tttaaaggaa	900
gttgccggca	agtcaaaact	tacagataca	acggtttcaa	ttccgataac	agccagttac	960
tacgtctacg	atacaaaaca	agttaaatct	ggcgactggt	aggcaaccgc	attaatcaac	1020
gtgaaatacg	actaa					1035

<210> 126
 <211> 2481
 <212> DNA
 <213> E. Coli

<400> 126						
atgttgagaa	tgaccccact	tgcatcagca	atcgtagcgt	tattgctcgg	cattgaagct	60
tatgcagctg	aagaaacctt	tgatacccat	tttatgatag	gtggaatgaa	agaccagcag	120
gttgcaaata	ttcgtcttga	tgataatcaa	cccttaccgg	ggcagtatga	catcgatatt	180
tatgtcaata	agcaatggcg	cgggaaatat	gagattattg	ttaaagacaa	cccgaagaa	240
acatgtttat	caagagaagt	tatcaagcgg	ttaggcatta	atagcgataa	cttcgccagc	300
ggtaagcaat	gtttaacatt	tgagcaactt	gttcaggggtg	ggagctatac	ctgggatatc	360
gggggttttc	gtctcgattt	cagtgtcccc	caggcctggg	tggaagaact	ggaaagtggc	420
tatgttcac	cggaaaactg	ggagcggggt	attaatgcgt	tttatacctc	ttattatctg	480
agtcagtatt	acagcgacta	taaagcgtcg	ggtaataaca	agagtacata	tgtacgtttt	540
aacagcgggt	taaatttact	gggttggtcaa	ctgcattctg	atgccagttt	cagtaaaaca	600
aataacaatc	caggggtgtg	gaaaagcaat	accctgtatc	tggaacgtgg	atttgcccaa	660
cttctcggca	cgttcgcgtg	gggtgatatg	tacacatcaa	gcgatatttt	tgattctgtt	720
cgttcagag	gtgtgcggtt	gtttcgtgat	atgcagatgt	tgccctaactc	gaaacaaaat	780
tttacgccac	gggtgcaggg	gattgctcag	agtaacgcgc	tggttaactat	tgaacagaat	840
ggttttgtgg	tttatcagaa	agaggttcct	cctggcccgt	tcgcgattac	agatttgcag	900
ttggccggtg	gtggagcaga	tcttgatgtc	agcgtgaaag	aggcggacgg	ctcggtaacc	960
acctatctgg	tgccctatgc	agcgtgtcca	aatatgctgc	aaccgcgctg	gtcgaaatat	1020
gatttagcgg	cgggtcgtag	ccatattgaa	ggggcgagca	aacaaagtga	ttttgtccag	1080
gcgggttatc	agtatggttt	taataattta	ttgacgctgt	atggtggctc	gatggtcgcg	1140
aataattatt	acgcgtttac	tttgggggct	ggctggaata	cacgcatttg	tgccatttcc	1200
gtcgtatcca	ctaagtcgca	tagtaaaaca	gacaacggcg	atgtgtttga	cgggcaaaag	1260
tatcaaatg	cctacaacaa	atttgtgagc	caaacgtcga	cgcgttttgg	tctggcgggc	1320
tggcgttatt	cgtcgcgtga	ttaccggaca	tttaacgatc	acgtttgggc	aaacaataaa	1380

gataattatc	gccgtgatga	aaacgatgtc	tatgacattg	ccgattatta	ccagaacgat	1440
tttggccgca	aaaatagctt	ttccgccaat	atgagccagt	cattgccaga	aggttggggg	1500
tctgtgtcat	taagtacgtt	atggcgagat	tactgggggc	gtagcggcag	tagtaaggat	1560
tatcagttga	gttattccaa	caacctgcga	cggataagct	ataccctcgc	ggcaagccag	1620
gcttatgacg	agaatcatca	tgaagagaaa	cgttttaata	tttttatatc	gattcccttt	1680
gattgggggtg	atgacgtttc	gacgcctcgt	cggcaaatat	atatgtctaa	ctcaacgacg	1740
tttgatgatc	aggggtttgc	ctcaaataat	acgggattat	caggaacagt	agggagtcgg	1800
gatcagttca	attatggtgt	caacctgagt	catcaacatc	agggaaatga	aacgacagct	1860
ggggcgcaatt	tgacctggaa	cgcgccggtt	gcgacagtga	atggcagtta	tagtcagtcg	1920
agtacttatc	gacaggctgg	agccagtgtt	tcagggggca	ttgtcgcctg	gtcgggtggc	1980
gttaatctgg	cgaaccgtct	ttccgaaacg	tttgctgtga	tgaatgcgcc	aggaattaaa	2040
gatgcttatg	tcaatgggca	aaaatatcgc	acaacaaacc	gtaatggagt	ggtgatatac	2100
gacggaatga	caccttatcg	ggaaaatcac	ctgatgctgg	atgtgtcgca	aagcgatagc	2160
gaagcagaat	tacgtggcaa	ccggaaaatt	gccgccctt	atcgcggcgc	ggttgtagtc	2220
gttaattttg	ataccgatca	gcgcaagcca	tggtttataa	aagcgttaag	agcagatggg	2280
caatcattaa	cgtttggtta	tgaagtcaat	gatatccatg	gtcataatat	tggcgttgtc	2340
ggccagggaa	gtcagttatt	tattcgcacc	aatgaagtac	cgccatcggt	taatgtggca	2400
attgataagc	aacaaggact	ttcatgcaca	atcaccttcg	gtaaagagat	tgatgaaagt	2460
agaaattata	tttgccagta	a				2481

<210> 127
 <211> 720
 <212> DNA
 <213> E. Coli

<400> 127						
atggccgcta	tcccatggcg	gccttttaat	ttaagaggca	ttaaaatgaa	aggattatta	60
tctttactca	ttttttctat	ggtccttcct	gcacatgccg	gaattgttat	ctacgggacg	120
cgcattatth	accgcgcaga	aaataaaaga	gtgatgggtc	agttgatgaa	ccagggaaac	180
cgttcttcgc	tgtctgcaggc	gtggattgat	gatggcgata	cgtcattacc	accagaaaaa	240
attcaggttc	ctttcatgtt	aacgccacca	gtggcaaaaa	taggggcaaa	ttccgggcag	300
caagtaaaaa	tcaaaattat	gccgaataaa	ctgcccacta	ataaagaaaag	cattttttat	360
ctgaatgttc	tggatattcc	accaaatagt	ccagagcaag	aaggttaagaa	tgcactgaag	420
tttgcgatgc	aaaacagaat	taagttgttt	taccggccag	cgggtattgc	tccggtaaat	480
aaagcgacat	ttaaaaaatt	gctggtaaat	cgcagtgcca	atggtttggt	gataaaaaat	540
gactcagcta	attgggtgac	gatttcggat	gtcaaagcta	ataatgtcaa	agtcaattat	600
gaaactatta	tgattgcccc	cttagaaaagt	cagagtgtta	atgtcaaaaag	taataatgca	660
aataactggc	atctgaccat	tatcgatgac	catggcaact	atattagtga	caaaatttaa	720

<210> 128
 <211> 543
 <212> DNA
 <213> E. Coli

<400> 128						
atgaaacggt	caattattgc	tgccgctgtc	ttttcttctt	tttttatgag	cgctggagta	60
tttgctgcag	acgttgatac	cggaacatta	actattaagg	ggaatattgc	agaatctccg	120
tgtaaattcg	aagcgggtgg	tgattcagta	agtattaata	tgccgactgt	accaaccagt	180
gtctttgaag	gtaaagctaa	atattctacc	tatgatgatg	cagtcggtgt	aaccagcagc	240
atgttaaaaa	ttagctgccc	gaaagaagtt	gctggtgtaa	aactctcggt	gattaccaac	300
gataaaataa	ccggtaacga	taaggcgata	gccagtagca	acgataccgt	gggttactat	360
ctctatttag	gtgataacag	cgatgtcctg	gatgtttctg	caccttttaa	cattgagagt	420
tataaaacag	cggaagggtca	atatgctatt	ccgtttaaag	caaaatacct	gaaactgaca	480
gataactcag	tgcaatcagg	tgatgtgtta	tcttctctgg	ttatgcgtgt	ggcgcaggat	540
taa						543

<210> 129

<211> 339
 <212> DNA
 <213> E. Coli

<400> 129

atgagttcag	agcgagatct	ggttaatttt	cttggcgatt	tttcaatgga	tgtggccaaa	60
gcagttatag	ccggtgggtg	tgcaaccgct	attggaagtc	tggcttcttt	tgccctgtgtt	120
agctttggct	ttccagtaat	tcttgtcgga	ggagcaattt	tactgacagg	gatagtgtgt	180
acagttgttt	taaatgaaat	cgatgctcaa	tgccatttat	cagaaaaatt	aaaatatgca	240
attagagatg	gactaaaacg	gcaacaggaa	cttgataaat	ggaaaagga	aaacatgact	300
ccatttatgt	atgttcttaa	cactccaccc	gtgatatga			339

<210> 130
 <211> 582
 <212> DNA
 <213> E. Coli

<400> 130

atgactgact	acctgttact	gtttgtcgga	actgtactgg	tcaataactt	tgtactggtc	60
aagtttctcg	gtctctgtcc	gtttatgggg	gtttccaaaa	aactggaaac	cgcgatgggc	120
atggggctgg	caacaacgtt	tgtgatgacg	ctggcgtcta	tttgcgcctg	gcttatcgat	180
acgtggattt	tgatcccact	taatctgatt	tacctgcgca	ccctggcatt	tattctgggtg	240
attgctgtgg	tcgtgcagtt	caccgagatg	gtggtgcgca	aaaccagccc	ggtgctttac	300
cgtctgctgg	ggattttttt	gccgcttatc	accaccaact	gtgcagtgtc	cggcgtggcg	360
ttgctgaata	tcaatctcgg	gcacaatttc	ttgcagtcgg	cgctgtacgg	tttttcgcgc	420
gctgtcgggt	tctcgctggg	gatgggtgctc	ttcgccgcca	tccgcgaacg	ccttgctgtg	480
gctgatgtcc	cggcaccttt	tcgcggtaat	gccattgctg	taattaccgc	aggtcttatg	540
tctctggcct	ttatgggctt	tagtggtttg	gtgaagttgt	aa		582

<210> 131
 <211> 579
 <212> DNA
 <213> E. Coli

<400> 131

atgaatgcta	tctggattgc	cgttgccgcc	gtgagcctgc	tgggcctggc	gtttggcgcc	60
attctggggt	atgcctcccg	ccgttttgcg	gtggaagacg	atccggtcgt	tgagaaaatt	120
gacgaaatct	taccgcagag	ccagtgtggg	cagtgcgggt	atcccggctg	tcgcccctac	180
gcggaagcca	tcagctgtaa	cggtgaaaaa	atcaaccgtt	gcgccccagg	tggcgaagct	240
gtgatgctaa	aaattgccga	gltgcttaat	gtcgagccgc	agccgctgga	tggcgaagcg	300
caagagataa	cgcctgcgcg	gatggtggcg	gltattgatg	aaaataactg	tattggctgc	360
actaaatgta	ttcaggcgtg	tccggtagac	gccatcggtg	gcgctacccg	tgccatgcat	420
acggtaatat	gtgatctctg	tacgggctgc	aatttatgtg	ttgatccgtg	cccgcgcac	480
tgcattctcg	tgcaaccggt	cgcagaaaca	cctgactcct	ggaaatggga	tctgaacacc	540
attcccgtgc	gtatcattcc	cgtggaacac	catgcttaa			579

<210> 132
 <211> 2223
 <212> DNA
 <213> E. Coli

<400> 132

atgcttaagt	tattctctgc	attcagaaaa	aataaaatct	gggatttcaa	cggcggcatc	60
catccaccgg	agatgaaaac	ccagtccaac	ggtacacccc	tgcgccagggt	acccttggcg	120
cagcgttttg	ttattccact	gaaacagcat	attggcgctg	aagggtgagtt	gtgcgttagc	180
gtcggcgata	aagtattgcg	cggccagccg	cttaccocgtg	gtcgcggcaa	aatgctgcct	240
gttcacgcgc	ccacctcggg	taccgttacg	gctattgcgc	cccactctac	ggctcatcct	300

tcagcttttag	ctgaattaag	cgtgattatt	gatgccgatg	gtgaagactg	ctggatcccc	360
cgcgacggct	gggcccatta	tgcactcgc	agtcgcgaag	agttaatcga	gcgcatacat	420
cagtttggtg	ttgccgggct	gggcggtgca	ggattcccga	caggcggttaa	attgcagggg	480
ggcggagata	agattgaaac	gttgattatc	aacgcggctg	agtgcgagcc	gtacattacc	540
gccgatgacc	gtttgatgca	ggattgcgcg	gctcaggctg	tagaggggat	tcgcattctt	600
gcgcataatc	tgcagccacg	cgaaattctt	atcggcattg	aagataacaa	accgcaggcg	660
atttccatgc	tgcgcgcggg	gctggcggac	tctaacgata	tttctctgcg	gggtgattcca	720
accaaatatc	cttctggcgg	tgctaaacaa	ttaacctaca	ttctgaccgg	gaagcagggt	780
ccacatggcg	ggcggttcac	cgatatcggc	gtattaatgc	aaaacgtcgg	cactgcttat	840
gcagtgaaac	gtgccgttat	tgatggcgag	ccgattaccg	agcgtgttgt	aacctgact	900
ggcgaagcaa	tcgctcgccc	gggcaacgtc	tgggcacggc	tggggacgcc	agtgcgtcat	960
ttattgaatg	atgccggatt	ctgcccctct	gccgatcaaa	tggtgattat	gggtggcccc	1020
ctaattgggct	ttaccttgcc	atggctggat	gtcccggctg	taaagattac	caactgtctg	1080
ttggctccct	ctgccaatga	acttggcgaa	ccacaggaag	aacaaagctg	catccggtgt	1140
agcgctctgt	ctgacgcctg	ccctgcggat	cttttgccgc	aacagttgta	ctggttcagc	1200
aaaggtcagc	aacacgataa	agctaccacg	cataacattg	ctgattgcat	tgaatgtggg	1260
gcttgccgct	gggtttgcc	gagcaatatt	ccctggtgc	aatatttccg	tcaggaaaaa	1320
gctgaaattg	cggctattcg	tcaggaagaa	aagcgcgccg	cagaagccaa	agcgcgtttc	1380
gaagcgcgcc	aggctcgtct	ggagcgcgaa	aaagcggctc	gccttgaacg	acataagagc	1440
gcagccgttc	aacctgcagc	caaagataaa	gatgcgattg	ctgccgctct	ggcgcgggtg	1500
aaagagaaac	aggcccaggc	tacacagcct	attgtgatta	aagcgggcca	acgcccggat	1560
aacagtgcaa	ttattgcagc	acgggaagcc	cgtaaagcgc	aagccagagc	gaaacaggca	1620
gaactgcagc	aaactaacga	cgcagcaacc	gttgctgac	cacgtaaaac	tgccgttgaa	1680
gcagctatcg	cccgcgcaa	agcgcgcaag	ctggaacagc	aacaggctaa	tgcggaacca	1740
gaacaacagg	tcgatccgcg	caaagccgcc	gtcgaagccg	ctattgccc	tgccaaagcg	1800
cgcaagctgg	aacagcaaca	ggctaattgc	gaaccagaag	aacaggtcga	tccgcgcaaa	1860
gccgccgtcg	aagcgcgtat	tgcccgtgcc	aaagcacgca	agctggaaca	gcaacaggct	1920
aatgccgagc	cagaacaaca	ggtcgatccg	cgcaaagccg	ccgtcgaagc	cgctattgcc	1980
cgagccaaag	cgcgcaaacg	ggaacagcaa	ccggctaatt	cggagccaga	agaacagggt	2040
gatccgcgca	aagctgccgt	cgaagcggct	attgcacgcg	ccaaagcacg	caagctggaa	2100
cagcaacagg	ctaattgcgt	accagaagaa	caggttgatc	cgcgcaaagc	ggcagttgcc	2160
gcggctattg	cccgcgctca	ggccaaaaaa	gccgcccagc	agaaggttgt	aaacgaggac	2220
taa						2223

<210> 133

<211> 1059

<212> DNA

<213> E. Coli

<400> 133

atggatttca	gaatagctag	ctcccccttat	acccataacc	agcgccagac	atcgcgcatt	60
atgctgttgg	tgttgctcgc	agccgtgcc	ggaatcgag	cgcaactgtg	gttttttgg	120
tgggttactc	tcgttcagat	cctgttgga	tcggttagtg	ctctgttagc	cgaagctctc	180
gtactcaaac	tacgcaagca	gtcggtagcc	gcaacgttga	aagataactc	agcattgctg	240
acaggcttat	tgctggcggg	aagtattccc	cccctcgcg	catggtggat	ggtcgtgctg	300
ggtacggtgt	ttgcggtgat	catcgctaaa	cagttgtatg	gcggtctggg	acaaaacccg	360
tttaatccgg	caatgattgg	ttatgtggtc	ttactgatct	ccttccccgt	gcagatgacc	420
agctggttac	cgccacatga	aattgcggtc	aacatcccgt	gttttatcga	cgccatccag	480
gttattttta	gcggtcatac	cgccagtggt	ggtgatatga	acacactacg	cttaggtatt	540
gatggcatta	gtcaggcgac	accgctggat	acatttaaaa	cctctgtccg	tgccggtcat	600
tcggttgaac	agattatgca	atatccgatc	tacagcggtg	ttctggcggg	cgctggttgg	660
caatgggtaa	atctcgcctg	gctggctggc	ggcgtatggg	tgctatggca	gaaagcgatt	720
cgctggcata	ttccccctcag	cttcttagta	acgctggcgt	tatgcgcaat	gttgggctgg	780
ttgttctcac	cagaaacact	ggcagcaccg	caaattcatc	tgctgtctgg	agcgaccatg	840
ctcggcgcat	tctttatatt	gactgacccg	gttaccgctt	ctacgaccaa	tcgtggtcgt	900
cttatttttcg	gcgcgcttgc	gggcttatta	gtctggttga	tccgcagttt	cggcggctat	960
cctgacggcg	tggtttttgc	cgctcctgctg	gcgaacatca	cggttcctct	gatcgattac	1020

tacacgcgtc cgcgcgtcta cggccatcgc aaagggttaa

1059

<210> 134

<211> 621

<212> DNA

<213> E. Coli

<400> 134

atgctgaaaa	ctatccgaaa	acacggcatt	acgttggcgc	tatttgcagc	gggttcaaca	60
gggttaactg	cggccatcaa	ccagatgacc	aaaacgacga	ttgctgaaca	ggccagtctg	120
caacaaaagg	cgttatttga	tcaggtgctg	ccagccgaac	gctataaaca	tgcgctggca	180
cagagttgct	atctggtaac	tgcgccagag	ttaggtaaag	gtgagcatcg	ggtttacatc	240
gccaaacagg	atgacaaacc	ggtagccgcc	gttctggaag	caaccgcgcc	agatggctat	300
tccggtgcga	ttcagctgct	ggtgggagcc	gattttaacg	gcacggtact	tggcacgcgc	360
gtgacagagc	accacgaaac	gccagggctt	ggcgataaaa	tcgaactgcg	cctttctgac	420
tggatcacc	attttgcggg	taaaaaaatc	agtgggtcag	atgatgcgca	ctgggcggtg	480
aagaaagatg	gtgggtgattt	cgaccagttc	accggcgcgca	cgattactcc	ccgcgcggtg	540
gttaatgcgg	taaaacgcgc	cggattgtac	gctcagacgt	taccggcaca	actttctcaa	600
cttctgcct	gtggagaata	a				621

<210> 135

<211> 696

<212> DNA

<213> E. Coli

<400> 135

gtgagcgaaa	ttaaagacgt	tattgttcag	gggttgtgga	aaaacaactc	tgcgctggtc	60
cagttgctcg	gcctttgtcc	tctgttggcg	gtcacgtcca	ctgccactaa	cgctctgggt	120
ttaggacttg	cgactacgct	ggtactgacg	ctgaccaacc	tgaccatttc	gacgctgcgt	180
cactggacgc	cagccgagat	ccgcattccc	atttacgtga	tgatcatcgc	ctcggtagtc	240
agcgtgttac	agatgctgat	caacgcctac	gcctttggcc	tgtatcaatc	attagggatt	300
tttattccgc	tgattgtcac	taactgtatc	gttgtggggc	gcgctgaagc	cttcgccgcc	360
aaaaaaggtc	cggcgctttc	ggcactggac	ggcttttcaa	ttggtatggg	cgcaacctgc	420
gccatgttcg	tgctgggttc	actacgcgaa	attatcgga	atggcacatt	gtttgacggt	480
gcagatgcgc	tgtaggttag	ctgggcaaaa	gtattacgcg	tggagatttt	ccacaccgac	540
tcccctttcc	tgctggcgat	gctgccacca	ggtgcattta	ttggcctggg	actgatgctg	600
gcaggaaaat	acctgattga	tgaagaatg	aaaaagcgcc	gtgctgaagc	agctgcagaa	660
cgtgcattgc	caaacggtga	aacagggaaat	gtctga			696

<210> 136

<211> 636

<212> DNA

<213> E. Coli

<400> 136

atgaataaag	caaaacgcct	ggagatcctc	actcgcctgc	gtgagaacaa	tcctcatccc	60
accaccgagc	ttaattttcag	ttcgcctttt	gaattgctga	ttgccgtact	gctttccgct	120
caggcgaccg	atgtcagtg	taataaggcg	acggcgaaac	tctacccggt	ggcgaatacg	180
cctgcagcga	tgcttgaact	gggcgttgaa	ggggtgaaaa	cctatatcaa	aacgattggg	240
ctttataaca	gcaaagcaga	aaatatcatc	aaaacctgcc	gtatcttgct	ggagcagcat	300
aatggcgagg	ttccggaaga	tcgtgctg	cttgaagccc	tgcccggcgt	aggctcgtaa	360
acagccaacg	tcgtattaaa	cactgcattc	ggctggccga	ctattgctgt	cgacacgcac	420
attttccgcg	tttgtaatcg	tactcaattt	gcgccgggga	aaaacgtcga	acaggtagaa	480
gaaaagctac	tgaaagtgg	tccagcagag	tttaaagtcg	actgccacca	ttggttgatc	540
ctgcacgggc	gttataacctg	cattgcccgc	aagccccgct	gtggctcttg	tattattgaa	600
gatctttgtg	aatacaaga	gaaagttgac	atctga			636

<210> 137
 <211> 504
 <212> DNA
 <213> E. Coli

<400> 137

atgaaaagac	ttcacaagag	gttcctgtta	gctacgtttt	gcgcgttatt	cacagcaact	60
ctccaggccg	ccgatgtcac	tatcactggt	aatggtcggg	tagtcgctaa	accctgcact	120
attcaaacca	aagaagctaa	cgттаатстс	ggggatcttt	atacgcgcaa	tctgcaacaa	180
cctggttctg	catctggctg	gcacaatatt	actttgtcat	taaccgattg	tccggttgaa	240
acaagtgcag	tgacggcaat	cgtgacaggt	tcaactgaca	atacgggtta	ttacaaaaat	300
gaagggtactg	ccgaaaatat	tcagatagag	ctgagggatg	accaggatgc	tgcggttaaaa	360
aatggcgata	gcaaaacggt	tattgttgat	gagatcactc	gtaatgcaca	gtttccactt	420
aaggcaagag	ctatcacggt	gaatggaaac	gcaagccagg	gaacgatcga	ggcgctaatac	480
aatgtgatct	acacctggca	ataa				504

<210> 138
 <211> 531
 <212> DNA
 <213> E. Coli

<400> 138

atgaaataca	ataacattat	tttcctcggt	ttatgtctgg	ggttaaccac	ctattctgct	60
ttatccgcag	atagcgttat	taaaattagc	gggcgcgtcc	tcgattatgg	ctgcacagtc	120
tcatcggatt	cgcttaattt	taccgtagat	ctccaaaaaa	acagtgccag	acaattttcca	180
acgaccggta	gcacaagtcc	agccgtccct	tttcagatta	cgtaaagtga	atgcagcaaa	240
gggacaacgg	gggttcgggt	tgcatttaac	ggtattgagg	atgcagaaaa	taatactttg	300
ttgaaactgg	atgaaggaag	caatacggcc	tccggtttgg	gtatagaaat	attggacgca	360
aatatgcgtc	cggtgaaact	gaatgatctt	catgccggga	tgcaagtggat	cccactggta	420
ccagaacaga	acaatatattt	gccttactcc	gctcgtctga	agtcaactca	gaagtcctgc	480
aatccggggac	tggtgagggc	ttcggcaacc	tttacccttg	aattttcaata	a	531

<210> 139
 <211> 1149
 <212> DNA
 <213> E. Coli

<400> 139

atgagtgggt	acaccgtcaa	gcctcctacc	ggagacacca	atgagcagac	acaattttatt	60
gattatttta	atctgttcta	cagtaagcgt	ggtcaggaac	aaataagcat	ctctcagcag	120
cttggaat	acggtacgac	atttttcagt	gccagtcgcc	aaagttaactg	gaacacgtca	180
cgcagcgacc	agcaaatatc	atttggatta	aatgtgccgt	ttggtgatat	tacgacttcg	240
ctgaattaca	gctattccaa	taatatatgg	caaaacgatc	gggatcattt	actcgctttt	300
acgcttaatg	ttcccttcag	tcattggatg	cgtacagaca	gtcagtcggc	atttcgtaat	360
tcaaacgcca	gttacagtat	gtcaaacgat	ttgaaaggcg	gcatgaccaa	tctatcgggg	420
gtttatggca	ctctgctgcc	ggataataac	ctgaattata	gcgttcagggt	cggtaacacc	480
cacggaggta	atacatcgtc	tggcaccagt	ggttacagtt	ctcttaatta	tcgtggagct	540
tatggtaata	ctaattgtcg	ttacagtcgg	agtggtgaca	gcagccagat	ttattacgga	600
atgagtgggtg	ggattattgc	tcattgctgat	ggcatcacct	ttggacagcc	gctgggcgac	660
acaatgggtc	tggttaaggc	tcctgggtgct	gataatgtca	aaatagagaa	ccagaccgga	720
attcataccg	actggcggtg	ctatgccata	ttaccatttg	cgacagaata	tagagaaaac	780
cgtgttgctc	ttaacgcgaa	ttcccttgca	gataatgttg	aactggatga	aaccgtggtc	840
actgtcatcc	caactcacgg	tgctattgcc	agagcaacat	ttaatgcaca	aatcggcggg	900
aaagtattaa	tgacgttgaa	gtacggtaat	aagagcggtc	cattcgggtg	aattgtcaca	960
cacggagaga	ataaaaaatg	cagcattgtc	gcggaaaatg	gtcagggttta	tctgactgga	1020
cttccacagt	cagggcaatt	acaggtttca	tggggcaaaag	ataaaaaactc	aaactgtatt	1080
gtcagagtaca	agcttctctga	agtttctcct	ggtaccttac	tgaaccagca	gacagcaatc	1140

<210> 140
 <211> 417
 <212> DNA
 <213> E. Coli

<400> 140

atgattgcga	ttgccgacat	cttgcaagca	ggagaaaagc	taactgctgt	ggcacctttt	60
ctggcgggta	ttcagaacga	ggaacaatac	accagggcgc	tggaactggg	agatcatctg	120
ctgctcaacg	atcctgaaaa	ccccttgctg	gatctggtgt	gtgccaaaat	aaccgcgtgg	180
gaagaatcag	cgcccgaatt	tgcggaattt	aatgccatgg	ctcaagccat	gcctggcggt	240
atagccgtga	ttcgtaccct	tatggatcaa	tatggtttaa	ccctttccga	tctgccggaa	300
attggcagta	aatctatggg	gtcacgcgtt	ttgagcgggg	agaggaaatt	aacgctggaa	360
cacgctaaaa	aattggcaac	gcgattcggc	atttctcccc	ccttgtttat	tgattaa	417

<210> 141
 <211> 315
 <212> DNA
 <213> E. Coli

<400> 141

atgcaccta	taactcaaaa	agcattgaaa	gatgctgcgg	aaaaatacc	gcaacataaa	60
acggagtgg	tggtctctgg	gaacacgatt	gctaagggat	atttcaaaaa	acctgagtca	120
ttaaaagcag	tattcccatc	tctggataac	ttcaaatac	tgataagca	ttatgttttc	180
aatgttggg	gcaatgaatt	acgtgttgta	gcaatggtct	tttttgaatc	gcaaaagtgc	240
tacatacgtg	aagttagtac	gcataaagaa	tacgatttct	ttaccgctgt	tcacgtact	300
aaggggaaaa	aatga					315

<210> 142
 <211> 7152
 <212> DNA
 <213> E. Coli

<400> 142

ttgctatcag	tattttacatt	ttttcgctgt	gctagaaagg	gcgcatttat	gttagctcgt	60
tcaggggaag	taagcatggc	tacgaagaag	agaagtggag	aagaaataaa	tgaccgacaa	120
atattatgcg	ggatgggaat	taaactacgc	cgcttaactg	cgggtatctg	tctgataact	180
caacttgctg	tccctatggc	tgcggcagca	caaggtgtgg	taaacgccgc	aaccacaaca	240
ccagttcctg	cacaaaattgc	cattgcaaatt	gccaatacgg	tgccctacac	ccttggaagc	300
ttggaatcgg	cccaaagcgt	tgccgaacgt	ttcggtattt	cggtggctga	gttacgcaaa	360
ctcaaccagt	ttcgtacgtt	tgctcgaagt	tttgataatg	tccgccaggg	tgatgaactg	420
gatgtcccgg	cacaagttag	tgaaaaaaaa	ttaacccgcg	cgccgggtaa	tagcagtgc	480
aacctcgagc	aacagatagc	cagtacttca	cagcaaatcg	ggtctctgct	cgccgaagat	540
atgaacagcg	agcaagcggc	aaatatggcg	cgtggatggg	cctcttctca	ggcttcaggc	600
gcaatgacag	actgggttaag	ccgcttcggt	accgcaagaa	tcacgctggg	cgtggatgaa	660
gatttttagcc	tgaagaactc	ccagttcgat	tttctccatc	cgtggtatga	aacgcctgat	720
aatctctttt	tcagtcagca	tactctccat	cgtactgacg	agcgtacgca	gattaacaac	780
ggcttaggtt	ggcgctcattt	cactcccaca	tggtatgtcg	gcatcaactt	ctttttcgac	840
cacgatctta	gccgttacca	ctcccgcgcc	ggcattggcg	cggagtactg	gcgcgactat	900
ctaaaattaa	gcagtaacgg	ctatttgcca	ctgaccaact	ggcgagcgcg	acctgaactg	960
gacaacgatt	atgaagcacg	cccggccaat	ggctgggatg	tacgcgcaga	aagctggcta	1020
cccgcctggc	cgcaccttgg	cggtaaaactg	gtctatgaac	agtattatgg	cgatgaagtg	1080
gccctgttcg	ataaagacga	tcggcaaaagt	aatcctcatg	ccataaccgc	tggaacttaac	1140
tataccccct	tcccgtctgat	gaccttcagc	gcggagcaac	gccagggtaa	acagggcgaa	1200
aatgacaccc	gttttgccgt	cgattttacc	tggaacacctg	gcagcgcaat	gcagaaacag	1260
cttgacccga	atgaagtcgc	tgcaacggcgt	agccttgca	gcagccgtta	tgatctgggtg	1320

gatcgcaaca	acaatatcgt	tctggaatat	cgcaaaaaag	aactgggttcg	cctgaccctg	1380
acagaccccc	tgacagggaa	gtcaggagaa	gtgaaatcac	tggtttcgtc	gctacaaacc	1440
aaatatgccc	tgaaaggcta	taacgtcgaa	gccaccgcac	tggaagctgc	cgggtggcaaa	1500
gtggtcacaa	cgggtaaaga	tattctgggt	accctgccgg	cttaccgggt	caccagtacg	1560
ccagaaaccg	ataacacctg	gccgattgaa	gtcaccgcgg	aagatgtcaa	aggcaatttg	1620
tcgaatcgtg	aacagagcat	ggtggtcggt	caggcaccta	cgctaagcca	gaaagattcc	1680
tcggtatcgt	taagtaccca	aacattgaac	gcggtattccc	attcaaccgc	cacactgact	1740
tttattgcgc	atgatgcagc	aggtaatcct	gttgtcgggc	tgggtgctctc	gacgcgtcac	1800
gaagggtgttc	aggacatcac	cctttctgac	tggaaagata	atggtgacgg	aagctatacc	1860
cagatcctga	ccacaggagc	gatgtctggc	acgctgacgc	tgatgccaca	gctgaatggg	1920
gtggatgcgg	ctaaagcccc	cgcggtgggt	aatatcattt	ctgttttcgtc	atcccgaact	1980
cactcgtcaa	ttaagattga	taaggaccgt	tatctctccg	gcaatcctat	cgagggtgacg	2040
gtagaactga	gagatgaaaa	tgacaaacct	gttaaggaac	aaaaacagca	actgaataac	2100
gcagtcagca	tcgacaacgt	gaaaccagga	gtcactacag	actggaaaga	aaccgcagat	2160
ggcgtctata	aggcgacctt	taccgcctat	accaaaggca	gtggacttac	tgcaagcta	2220
ttaatgcaaa	actggaatga	agatttgcat	accgctggat	ttatcatcga	cgccaacccg	2280
cagtcagcga	aaattgcgac	attatctgcc	agcaataatg	gtgtgctcgc	caatgagaat	2340
gcagcaaaaca	ccgtctcggg	caatgtcgct	gatgaaggaa	gcaacccaat	caatgatcat	2400
accgtcacgt	ttgcgggtatt	aagcggatcg	gcaacttcct	tcaacaatca	aaacaccgca	2460
aaaacggatg	ttaatgggtct	ggcgactttt	gatctgaaaa	gtagtaagca	ggaagacaac	2520
acggttgaag	tcacccttga	aaatggcgtg	aaacaaacgt	taatcgtcag	ttttgtcggc	2580
gactcgagta	ctgcgcagggt	tgatctgcag	aagtcgaaaa	atgaagtggg	tgctgacggc	2640
aatgacagcg	tcacaatgac	cgcgaccgtc	cgggatgcaa	aaggcaacct	gctcaatgac	2700
gtcatggta	ctttcaatgt	taattcagca	gaggcgaaac	tgagccaaac	cgaagtgaat	2760
agccacgacg	ggatcgccac	agctacgctg	accagtttga	aaaatgggtg	ttatagggtt	2820
acggcctctg	tgagctctgg	ttcccaggct	aatcaacagg	tgaattttat	cgggtgatcaa	2880
agtactgctg	ccctgacctt	cagtgtgcct	tcaggtgata	tcaccgtcac	caacacagct	2940
ccgcaatata	tgactgcaac	cttgaggat	aaaaatggca	acccactaaa	agataaagaa	3000
atcaccttct	ctgtgccaaa	cgacgtcgca	agtaagttct	cgattagcaa	cggaggaaaa	3060
ggcatgacgg	atagtaacgg	ggttgcaatc	gcctccctga	ccggcacggt	agcgggcacg	3120
catatgatca	tggctcgtct	ggctaacagc	aatgtcagcg	atgcacagcc	aatgacgttt	3180
gtggcggata	aagacagagc	ggttgtcgtt	ttgcaaacat	cgaaagcgga	aatcattggg	3240
aatggcgtgg	atgagacaac	tctgacagca	acagtgaag	atccgtcgaa	tcacccgggtg	3300
gcggggataa	cggtaaaactt	caccatgcc	caggacgttg	cggcaaaactt	tacccttgaa	3360
aataacggta	ttgccatcac	tcaggccaat	ggggaagcgc	atgtcacgct	gaaaggtaaa	3420
aaagcgggca	cgcatacggg	taccgcaacg	ctgggttaata	acaataccag	tgattcgag	3480
ccggtaacat	ttgtggcgga	caaagcctcg	gctcagggtg	tcctgcagat	atcaaaagat	3540
gagatcacag	gtaatggcgt	cgatagcgca	acgctaactg	caacgggtta	agatcagttc	3600
gacaatgagg	tgaataatct	tccggtaaca	ttcagctcag	cctcttcagg	actcaccctg	3660
accccgggag	taagtaatac	caacgagctc	ggcatcgcg	aggccactct	cgcaggcggt	3720
gcctttgggtg	agaagacggg	tactgcatca	ctggctaata	atggtgccag	cgacaacaaa	3780
actgtgcatt	ttattggcga	cacagcggcg	gcaaaaatta	tcgagttggc	gcctgtccca	3840
gacagcataa	tcgcccgtac	cccgcagaac	agctccggca	gcgtcatcac	cgccacagtc	3900
gttgataata	atggctttcc	ggtgaaaagg	gtgactgtga	acttcaccag	caacgcagcg	3960
acagccgaaa	tgacgaacgg	cgggtcaagcc	gtgacgaacg	aacagggtaa	ggctaccgtc	4020
acttatacca	atacccgctc	ctcgatagaa	tcaggagcga	gaccggatac	cgttgaggcc	4080
agtctggaaa	atggtagctc	cacgcttagc	acatcaatta	atgtcaacgc	tgatgcgtct	4140
acggcacatc	tcaccttgct	acaggcactt	tttgatacag	tctccgcagg	cgagacaacc	4200
agtctgtata	ttgagggtga	ggataattac	ggcaacgggtg	tccccagca	ggaggtaacc	4260
ctcagcggtt	caccaagtga	aggcgtgacc	cccagtaata	acgctatata	tactaccaac	4320
cacgacggca	atttttacgc	aagctttacc	gctacaaaag	ccgggggttta	tcaattgacg	4380
gcaaccctcg	aaaatggcga	ttcgatgcaa	caaacagtga	cctatgtgcc	gaacgtcgcg	4440
aatgctgaaa	tcacgctggc	agcctcgaa	gatccgggtg	ttgccgacaa	taacgatctc	4500
acgacactaa	cagcaacagt	cgctgataca	gagggcaatg	cgatagccaa	cactgaggta	4560
acatttactc	tgccggaaga	tgtgaaggcg	aacttcacgc	tgagcgatgg	cggtaaagtg	4620
attactgatg	ctgaaggcaa	agcgaaagtc	acgctgaaag	gtacaaaagc	aggcgctcat	4680
actgttacag	catcgatgac	tggcggtaag	agtgaagcag	tgggtggtgaa	ctttattgag	4740

gatacgtca	ctgcgcaggt	taatcttaac	gttaccgagg	acaattttat	cgctaataac	4800
gtcgggatga	ccaggctgca	ggcaacagtg	actgatggaa	acggcaaccc	gttagccaat	4860
gaggcggatga	cattcacgct	accggcagat	gtgagcgcaa	gctttactct	cggacaaggc	4920
ggttcgcgcca	ttactgatat	caacggcaag	gctgaagtta	cactgagcgg	tacaaaatcc	4980
ggcacctacc	ccgtgacagt	tagcgtgaac	aattatggtg	tcagtgatac	gaaacaggtg	5040
actttgattg	ccgatgctgg	taccgcaaaa	ctagcctcct	taacctctgt	atactcattc	5100
gtcgtcagca	cgaccgaggg	cgcaaccatg	acggcaagcg	tcactgacgc	taacggcaac	5160
ccggtagaag	gcataaaaagt	taatttcgcg	ggaacctccg	tcacgctaag	cagcaccagc	5220
gttgaacgg	atgatcgggg	tttcgctgaa	attcttgtga	caagcaccga	ggtcggactg	5280
aaaacagttt	cagcctctct	ggcagataaa	cctactgaag	tcactctcgc	attactgaat	5340
gccagtgcag	atgttaattc	tgcgacgatt	accagtctgg	agataccgga	aggtcaggta	5400
atggtcgcac	aagacgtagc	agttaaagct	cacgttaacg	accagtttgg	caaccgggtt	5460
gcgcatcaac	ccgtgacatt	cagtgcagag	ccatcctcgc	aatgatcat	cagccagaat	5520
acggtctcta	ctaatacgca	gggtgtagcc	gaggtcacca	tgacgcccga	aagaaacggg	5580
tcgtatatgg	tgaagcatc	cctgccgaat	ggagcctcac	ttgagaaaca	actggaggct	5640
attgatgaaa	aactgacact	cacggcgtcc	agtccgctta	tcggtgtcta	tgcccctaca	5700
ggcgctactc	tgacggcaac	gctaacctct	gcaaattggca	ctccagtgga	gggtcaggtc	5760
atcaacttta	gcgtaacgcc	agaaggggcg	acgttaagtg	gcggaaggt	gagaactaac	5820
tcttcaggtc	aggctccagt	cgttttgacc	agcaataaag	tcggtacata	tacggtgact	5880
gcacttttcc	ataacggcgt	aacaatacag	acacagacaa	ccgtgaaagt	cactggcaac	5940
tcaagcaccc	cccatgttgc	tagctttatc	gctgatccat	cgactatcgc	cgccaccaac	6000
actgatttaa	gtaccttaaa	ggcaacgggt	gaggatggca	gtggtaacct	gatcgaaggt	6060
ctcactgtgt	acttcgcctt	aaaaagcggc	tctgccacat	taacgtcatt	aacagcgggtg	6120
accgatcaaa	acggaatcgc	gacaacaagc	gtgaaaggag	cgatgacagg	tagcgtcacg	6180
gtaagcgag	tcacgaccgc	tgggtggaatg	caaacagtag	atataacgct	ggtggctggc	6240
ccggcagaca	cctcgcagtc	cgctccttaag	agcaatcggg	catcactgaa	aggggactat	6300
accgatatgt	ctgaattacg	tcttgttctg	cacgatatat	caggcaatcc	gatcaaagtt	6360
tctgaaggga	tggaaattgt	gcaatcaggt	actaacgtgc	cctatataaa	aattagcgca	6420
attgattaca	gtctaaatat	caacgggtgat	tacaaagcca	ctgttacagg	aggcggagag	6480
ggtatcgcaa	cgctgatccc	tgtattgaat	ggtgttcac	aagctggtct	gagtaccaca	6540
atacaattca	ctcgcgcaga	agacaaaata	atgagcggta	cagtatcagt	caatggtact	6600
gacctaccga	caactacatt	cccttcgcag	gggttcaccg	gggcgtatta	tcagttgaat	6660
aatgacaact	ttgccccagg	aaaaacggcg	gctgattatg	agttttcaag	ctctgcctcc	6720
tgggtcgatg	ttgatgctac	cggtaaagtg	acatttaaaa	atgtcggcag	caattcggaa	6780
aggattacgg	cgacgcaaaa	atcaggaggc	cctagctatg	tatacgaaat	ccgtgtgaag	6840
agttggtggg	tgaacgccgg	cgaggctttc	atgatataca	gccttgctga	aaatttttgc	6900
agcagcaatg	gctacacgct	ccccagagca	aactatttaa	accactgtag	ttcccagggc	6960
atcgggtcac	tgtacagtga	atggggagat	atggggcatt	acacgactga	cgctgggtttt	7020
caatcaaata	tgtattgggtc	atctagtcctc	gcaaactcaa	gcgaacaata	cgtagtttcc	7080
ctggcaacag	gtgatcaaaag	cgtatttgaa	aagcttgggt	ttgcttatgc	gacatgttat	7140
aaaaacctgt	ga					7152

<210> 143

<211> 186

<212> DNA

<213> E. Coli

<400> 143

atgagcaaag	gcgcattata	tgaatttaac	aatccagatc	aactgaaaat	acctctccct	60
cataaacaca	tagcgtcaac	attcaatgac	ataatgagta	aagatgttgg	ttatgcatac	120
gtatcattac	tctatgcctg	tcccttaaaa	accactcat	taagactgaa	tccattcagc	180
aatga						186

<210> 144

<211> 1197

<212> DNA

<213> E. Coli

<400> 144

atgcaggtgg	ctgaacagcg	cattcagcta	gctgaagccc	aggcgaaggc	agttgccact	60
caggatggtc	cgcatatcga	cttttcggcg	gatatggagc	ggcaaaaaat	gtcggcagaa	120
ggcttaatgg	ggccgtttgc	tctgaacgat	ccggccgcag	gtacgaccgg	cccgtggtac	180
accaacggta	cttttggtt	aacggcgggc	tggcatctcg	atatctgggg	aaagaatcgg	240
gcggaggtta	ctgcccgcct	gggtacggtt	aaagcacggg	cggcggaaacg	cgagcaaacc	300
cgccaattgc	tggctggcag	cgtagcccgc	ctgtactggg	agtggcaaac	ccaggcggcg	360
ttaaacacgg	tcttgacgca	aatagaaaaa	gagcagaaca	ccattatcgc	gaccgatcgc	420
cagctatatc	agaacgggat	tacttcttca	gttgaagggtg	tggaaaccga	tattaatgcc	480
agcaaaaccc	ggcagcagct	caacgatgtc	gcggggaaaa	tgaaaattat	tgaggcacgg	540
ttaagcgcac	ttacaaataa	ccagacaaag	tcattgaagc	ttaaaccggg	cgcggtgccg	600
aaagtggcaa	gccagcttcc	tgatgaactg	gggtactcct	tactggccccg	gcgggcagat	660
ttgcaggcgg	cgactggta	cgttgagtca	tcgctaagca	ccattgatgc	ggcaaaagcg	720
gcattttatc	ctgacatcaa	cctgatggcc	ttcctgcaac	aggatgcgtt	gcacttaagc	780
gatctgttcc	gtcattccgc	gcagcaaata	ggcggttacg	caggcctgac	gctacccatt	840
ttcgatagtg	gtcgtcttaa	cgccaatctc	gatatcgcaa	aagccgaaaag	caacttgtct	900
atcgccagct	acaacaaagc	ggtggttgaa	gcggtgaatg	acgtggcgcg	ggcagccagt	960
caggttcaga	cactggcgga	gaaaaaccag	catcaggcgc	aaattgagcg	cgatgccttg	1020
cgtgtggtag	gtcttgcgca	ggcgcgcttt	aacgcgggca	tcattgctgg	ttcccgcgtc	1080
agcgaagcca	gaatccccgc	gctgcgtgag	cgggccaatg	gcctgttatt	gcaagggcag	1140
tggctggatg	cctccattca	actcactggt	gcgttgggcg	gggggtacaa	acgtcta	1197

<210> 145

<211> 291

<212> DNA

<213> E. Coli

<400> 145

atgtattgcc	acgcgaaact	aaaaaatata	tcgcaacaca	cggtaatctc	cgcgcacctt	60
ttcttacctg	attattcccc	catgaatcgt	gattcctttt	atccagccat	cgctgtttt	120
ccgctgttac	tgatgctggc	cgggtgtgcg	cctatgcatg	aaaccgcga	ggcgtaaagc	180
cagcaaacgc	ccgctgcaca	agttgacacc	gcattaccca	cggcgctgaa	aatgggtggc	240
cagacagcca	atgggtggctg	gagtatcacg	ataatcaact	cacttcctta	a	291

<210> 146

<211> 948

<212> DNA

<213> E. Coli

<400> 146

atgcgtgtgt	tactggcacc	gatggaggga	gtgcttgact	ctctggtgcg	tgaattgctg	60
accgaagtta	acgactacga	tctgtgcatc	accgagtttg	tccgcgtggt	ggatcaactg	120
ctgccggtaa	aagtctttca	tcgcatttgc	cctgagctac	aaaacgccag	ccggacacca	180
tctggtacgc	tgggtgcgct	gcagttgtta	ggtcagttcc	cacaatggct	ggcagagaac	240
gccgcccgtg	cggtggagtt	aggttcctgg	ggcgtaggac	tcaattgctg	ctgcccgtcg	300
aaaacggtta	acggtagcgg	cggcggggcg	acgttactca	aagatcctga	actcatctac	360
cagggtgcaa	aagcgatgcg	tgaagctgta	ccggcgcat	tgcccgtcag	cgtgaaagt	420
cgtctgggct	gggacagcgg	tgagaagaaa	tttgaaatcg	ccgatgcggt	tcaacaggct	480
ggcgctacgg	agctggtggt	gcatgggcgg	acgaaagagc	agggttaccg	cgcgagcat	540
attgactggc	aggcgattgg	cgatattcgc	cagcggctga	atattccggt	gattgccaac	600
ggtgaaatct	gggactggca	gagcgcgcaa	caatgcatgg	cgatcagcgg	ctgcgacgca	660
gtgatgattg	gtcgcggggc	gctcaatatt	cccaacctga	gccgggtggt	aaaatataac	720
gaaccgcgaa	tgccgtggcc	ggagggtggt	gctttgctgc	aaaaatatac	ccgtctggaa	780
aagcaggggc	ataccggggt	atatcacggt	gcgcggatta	aacagtgggt	gagttatttg	840
cgtaaagaat	acgatgaagc	aacggaatta	tttcagcatg	ttcgggtggt	gaataattcc	900
cctgatattg	caagggctat	tcaggcaatt	gatatcgaga	aactctaa		948

<210> 147
 <211> 891
 <212> DNA
 <213> E. Coli

<400> 147

atgacaatat	cgacaacttc	cacgccgcat	gatgcggtat	ttaaattcttt	tttacgccat	60
ccagacaccg	cgcgggattt	tattgatatt	catcttcccg	cgccgctgcg	caaactgtgt	120
gatttaacga	cgcttaaact	ggaaccaaac	agttttattg	atgaagacct	gcggcaatat	180
tattccgacc	tcttgtggtc	tgtgaaaacg	caggagggag	tgggttatat	ttatgtagtg	240
atagagcacc	aaagtaagcc	ggaagaatta	atggcttttc	gcatgatgcg	ttattccatt	300
gcggcaatgc	aaaaccatct	tgatgcgggc	tataaagagc	ttccattggt	gctcccgatg	360
ctgttttatc	atggttgcag	aagtccttat	ccttattcac	tctgctggct	tgatgaattt	420
gccgagcctg	ctatagcccc	caaaatatat	tcatcggctt	ttccgttggg	ggatattacc	480
gtggtgcccg	atgacgagat	tatgcaacac	cgcaaaatgg	cgctgttggg	gttaattcag	540
aaacatattc	gtcagcgcg	tctgttggga	ttagtcgacc	aaattgtttc	gctgctagtt	600
acagggaaac	ctaagtacag	acagctaaaa	gccctgttta	attacgtatt	acaaacaggg	660
gatgcccagc	gttttcgtgc	atattattgg	gagatagcgg	aacgcgcacc	acaagaaaag	720
gagaaactga	tgaccattgc	tgacagatta	cgtgaagaag	gcgcaatgca	gggcaaacac	780
gaagaagccc	tgcgtattgc	tcaggagatg	ctggatagag	gtttagacag	agagttagtt	840
atgatggtga	cccgactttc	accagacgat	cttatcgcgc	aaagccacta	a	891

<210> 148
 <211> 1668
 <212> DNA
 <213> E. Coli

<400> 148

gtggctcaat	tcgtttatac	catgcatcgt	gtcggcaaaag	ttgttccgcc	gaaacgtcat	60
atttttgaaa	acatctctct	gagtttcttc	cctggggcaa	aaattgggtg	cctgggtctg	120
aatggcgcg	gtaagtcac	cctgctgcgc	attatggcgg	gcattgataa	agacatcgaa	180
ggtgaagcgc	gtccgcagcc	agacatcaag	attggttatc	tgccgcagga	accgcagctg	240
aaccgcgaac	acaccgtgcg	tgagtccatt	gaagaagcgg	tttcagaagt	ggttaacgcc	300
ctgaaacgcc	tggatgaagt	gtatgcgctg	tacgccgatc	cggatgccga	ttttgacaag	360
ctggccgctg	aacaaggccg	tctggaagag	atcattcagg	ctcacgacgg	tcataatctg	420
aacgtacagc	tggagcgtgc	ggcggatgcg	ctacgtctgc	cggactggga	cgcgaaaatc	480
gctaacctct	ccggtggtga	acgtcgtcgc	gtagcgttgt	gccgcctgct	gctggaaaaa	540
ccagacatgc	tgctgctcga	cgaaccgacc	aaccacctgg	atgccgaatc	cgtggcctgg	600
ctggaacgct	tcctgcacga	cttcgaaggc	accgttgttg	cgattaccca	cgaccgttac	660
ttcctcgata	acgttgcagg	ctggatcctc	gaacttgacc	gcggtgaagg	tattccgtgg	720
gaaggttaact	actcctcctg	gctggagcag	aaagatcagc	gcctggcgca	ggaagcttca	780
caagaagcgg	cgcgtcgtaa	gtcgattgag	aaagagctgg	aatgggtacg	tcaaggtact	840
aaaggccgct	agtcgaaaag	taaagcacgt	ctggcgcgct	ttgaagaact	gaacagcacc	900
gaatatcaga	aacgtaacga	aaccaacgaa	ctgtttattc	cacctggacc	gcgtctgggc	960
gataaagtgc	tggaaagtgc	caacctgcgt	aaatcctatg	gcgatcgtct	gctgattgat	1020
gacctgagct	tctcgatccc	gaaaggagcg	atcgtcggga	tcacggtcc	gaacggtgcg	1080
ggtaaatcga	ccctgttccg	tatgatctct	ggtcaggaac	agccggacag	cggcaccatc	1140
actttgggtg	aaacgggtgaa	actggcgctg	gttgatcagt	tccgtgactc	aatggataac	1200
agcaaaaccg	tttgggaaga	agtttccggc	gggctggata	tcatgaagat	cggcaacacc	1260
gagatgccaa	gcgcgcctta	cgttggccgc	tttaacttta	aaggggttga	tcagggtaaa	1320
cgcgttggtg	aactctccgg	tgggtgagcg	ggtcgtctgc	atctggcgaa	gctgctgcag	1380
gttggcggca	acatgctgct	gctcgacgaa	ccaaccaacg	acctggatat	cgaaaccttg	1440
cgcgcgctgg	aaaacgccct	gctggagttc	ccgggctgtg	cgatggttat	ctcgcacgac	1500
cgttggttcc	tcgaccgtat	cgccacgcac	attctggatt	accaggatga	aggtaaagtt	1560
gagttcttcg	aaggtaactt	taccgagtac	gaagagtaca	agaaacgcac	gctgggcgca	1620
gacgcgctgg	agccgaagcg	tatcaagtac	aagcgtattg	cgaagtaa		1668

<210> 149
 <211> 522
 <212> DNA
 <213> E. Coli

<400> 149
 atgtcaaagc caaaataccg ttttgaaaag cgccttgaag tcgtgaatca ctacttcaca 60
 actgatgatg gttacaggat catctcggca cgttttggtg tccccgaac ccaggtcagg 120
 acatggggtg ccctctatga aaaacatgga gaaaaagggt taattcccaa acctaaaggc 180
 gttagtgtcg atccagagtt gcgtattaag gtcgtgaaag ctgtgatcga gcagcacatg 240
 tcccttaatc aggtctgtgc tcactttatg cttgctggta gtggttctgt agccagggtg 300
 ctgaaggtct atgaagagcg cggagaagct ggtttacgcg cgctcaagat tggcaccaaa 360
 agaaacattg caatatcagt tgatccagaa aaagcggcat cagcattgga gctgtcaaaa 420
 gaccgacgca ttgaggatct tgaaaggcaa gttcgatttc ttgaaacgcg gcttatgtat 480
 ctaaaaaagc tgaaagcctt agctcatccc acgaaaaagt ga 522

<210> 150
 <211> 852
 <212> DNA
 <213> E. Coli

<400> 150
 gtgaaagtac tcaacagagct aaggcagttt tatcctcttg atgagcttct cagggtctgcg 60
 gagataccgc gcagtacggt ttattatcat ctaaaggctc tcagcaagcc tgacaagtat 120
 gcggacgtta aaaagcgtat tagtgagatt tatcacgaga atagaggccg atacggatac 180
 cgtagggtaa cgctgtctct tcatcgagaa gggaaacaga ttaaccataa agctgttcag 240
 cgctgatgg gaaccctctc acttaaagca gcgattaagg tcaagcgata ccgctcttac 300
 agaggagagg tagggcaaac cgcccctaag gttctccaaa gagatttcaa ggctacgcgg 360
 ccaaacgaga agtgggttac cgatgttact gaatttgcag tcaatgggcg caagctgtat 420
 ttgtctccag taatagatct cttcaacaac gaagttatct cttacagcct ttcggaaaga 480
 ccagtgatga acatgggtga gaatatgctc gatcaggcat tcaaaaagct taatcctcac 540
 gagcatcctg ttctgcactc tgaccaggga tggcagatc gtatgagaag atatcaaaat 600
 atccttaaag aacatggtat taaacaaagc atgtccagaa aaggcaattg tctggataat 660
 gctgtgggtg agtgtttctt tggaacctta aagtcggagt gtttttatct tgatgagttc 720
 agtaataata gcgaactgaa ggatgctgtt acggaatata ttgaatacta caacagcaga 780
 agaattagcc tgaaattaaa aggtctgact ccaattgaat atcggaatca gacctatatg 840
 cctcgtgttt aa 852

<210> 151
 <211> 117
 <212> DNA
 <213> E. Coli

<400> 151
 atgaaagtgc gtgcttccgt caagaaatta tgccgtaact gcaaaatcgt taagcgtgat 60
 ggtgtcatcc gtgtgatttg cagtgccgag ccgaagcata aacagcgcca aggtgta 117

<210> 152
 <211> 1332
 <212> DNA
 <213> E. Coli

<400> 152
 atggctaaac aaccgggatt agattttcaa agtgccaaag gtggcttagg cgagctgaaa 60
 cgcagactgc tgtttgttat cggcgcgctg attgtgttcc gtattggctc ttttattccg 120

atccctggta	ttgatgccgc	tgtacttgcc	aaactgcttg	agcaacagcg	aggcaccatc	180
attgagatgt	ttaacatggt	ctctgggtgg	gctctcagcc	gtgcttctat	ctttgctctg	240
gggatcatgc	cgtatatctc	ggcgtcgatc	attatccagc	tgctgacggg	ggttcaccca	300
acgttggcag	aaattaagaa	agaaggggag	tctggtcgtc	gtaagatcag	ccagtacacc	360
cgctacggta	ctctgggtgct	ggcaatatct	cagtcgatcg	gtattgctac	cggtctgccg	420
aatatgcctg	gtatgcaagg	cctgggtgatt	aaccggggct	ttgcattcta	cttcaccgct	480
gttgtaagtc	tggtcacagg	aaccatgttc	ctgatgtggt	tgggcgaaca	gattactgaa	540
cgaggatctg	gcaacgggat	ttcaatcatt	atcttcgccg	gtattgtcgc	gggactcccg	600
ccagccattg	cccatactat	cgagcaagcg	cgtcaaggcg	acctgcactt	cctcgtgttg	660
ctggttggtg	cagtattagt	atttgacgtg	acgttctttg	ttgtatttgt	tgagcgtggt	720
caacgccgca	ttgtggtaaa	ctacgcgaaa	cgtcagcaag	gtcgtcgtgt	ctatgctgca	780
cagagcacac	atctaccgct	gaaagtgaat	atggcggggg	taatcccggc	aatcttcgct	840
tccagtatta	ttctgttccc	ggcgaccatc	gcgtcatggt	tcggggggcg	tactgggttg	900
aactggctga	caacaatttc	gctgtatttg	cagcctgggc	aaccgcttta	tgtgttactc	960
tatgcgtctg	caatcatctt	cttctgtttc	ttctacacgg	cgttgggttt	caaccgcgt	1020
gaaacagcag	ataacctgaa	gaagtccggt	gcatttgtac	caggaattcg	tcggggagag	1080
caaacggcga	agtatatcga	taaagtaatg	acccgcctga	ccctgggttg	tgcgctgtat	1140
attaccttta	tctgcctgat	cccggagttc	atgcgtgatg	caatgaaagt	accgttctac	1200
ttcgggtggga	cctcactgct	tatcgttggt	gtcgtgatta	tggactttat	ggctcaagtg	1260
caaactctga	tgatgtccag	tcagtatgag	tctgcattga	agaaggcgaa	cctgaaaggc	1320
tacggccgat	aa					1332

<210> 153

<211> 435

<212> DNA

<213> E. Coli

<400> 153

atgcgtttta	atactctgtc	tccggccgaa	ggctccaaaa	aggcgggtaa	acgcctgggt	60
cgtggatatc	gttctggcct	cggtaaaacc	gggtgctgtg	gtcacaaagg	tcagaagtct	120
cgttctggcg	gtggcgtagc	tcgcggtttc	gaggggtggc	agatgcctct	gtaccgtcgt	180
ctgccgaaat	tcggcttcac	ttctcgtaaa	gcagcgatta	cagccgaaat	tcgtctgtct	240
gacctggcta	aagtagaagg	cgggtgtagta	gacctgaaca	cgctgaaagc	ggctaacatt	300
atcggtatcc	agatcgagtt	cgcgaaagtg	atcctggctg	gcgaagtaac	gactccggta	360
actgttcgtg	gcctgcgtgt	tactaaaggc	gctcgtgctg	ctatcgaagc	tgctggcggt	420
aaaatcgagg	aataa					435

<210> 154

<211> 180

<212> DNA

<213> E. Coli

<400> 154

atggcaaaga	ctattaaaaat	tactcaaacc	cgcagtgcaa	tcggtcgtct	gccgaaacac	60
aaggcaacgc	tgcttggcct	gggtctgcgt	cgtattggct	acaccgtaga	gcgcgaggat	120
actcctgcta	ttcgcgggat	gatcaacgcg	gtttccttca	tggttaaagt	tgaggagtaa	180

<210> 155

<211> 504

<212> DNA

<213> E. Coli

<400> 155

atggctcaca	tcgaaaaaca	agctggcgaa	ctgcaggaaa	agctgatcgc	ggtaaaccgc	60
gtatctaaaa	ccgttaaagg	tggtcgtatt	ttctccttca	cagctctgac	tgtagttggc	120
gatggtaacg	gtcgcgttgg	ttttgggttac	ggtaaagcgc	gtgaagttcc	agcagcgatc	180
cagaaagcga	tggaaaaagc	ccgtcgcgaat	atgattaacg	tcgcgctgaa	taacggcact	240

ctgcaacacc	ctgttaaagg	tgttcacacg	ggttctcgcg	tattcatgca	gccggcttcc	300
gaaggtagcg	gtatcatcgc	cggtaggtgca	atgcgcgccg	ttctggaagt	cgctgggggtt	360
cataacgttc	tggtctaaagc	ctatgggttcc	accaaccgga	tcaacgtggg	tcgtgcaact	420
attgatggcc	tggaatat	gaattctcca	gaaatggcg	ctgccaagcg	tggtaaatcc	480
ggtgaagaaa	ttctggggaa	ataa				504

<210> 156
 <211> 354
 <212> DNA
 <213> E. Coli

<400> 156						
atggataaga	aatctgctcg	tatccgtcgt	gcgaccgcg	cacgccgcaa	gctccaggag	60
ctgggcgcaa	ctcgctggt	ggtacatcgt	acccgcgctc	acatttacgc	acaggtaatt	120
gcaccgaacg	gttctgaagt	tctggtagct	gcttctactg	tagaaaaagc	tatcgctgaa	180
caactgaagt	acaccggtaa	caaagacgcg	gctgcagctg	tggttaaagc	tgctcgctgaa	240
cgcgctctgg	aaaaaggcat	caaagatgta	tcctttgacc	gttccgggtt	ccaatatcat	300
ggtcgtgtcc	aggcactggc	agatgctgcc	cgtgaagctg	gccttcagtt	ctaa	354

<210> 157
 <211> 534
 <212> DNA
 <213> E. Coli

<400> 157						
atgtctcgtg	ttgctaaagc	accggctcgtt	gttctcgccg	gcgttgacgt	aaaaatcaac	60
ggtcagggtta	ttacgatcaa	aggtaaaaaac	ggcgagctga	ctcgactct	caacgatgct	120
gttgaagtta	aacatgcaga	taataccctg	accttcggtc	cgcgtagtgg	ttacgcagac	180
ggttgggcac	aggctggtac	cgcgcggtgcc	ctgctgaact	caatggttat	cggtgttacc	240
gaaggcttca	ctaagaagct	gcagctggtt	ggtgtaggtt	accgtgcagc	ggttaaaggc	300
aatgtgatta	acctgtctct	gggtttctct	catcctgttg	accatcagct	gcctgcgggt	360
atcactgctg	aatgtccgac	tcagactgaa	atcgtgctga	aaggcgctga	taagcagggtg	420
atcgccagg	ttgcagcgga	tctgcgcgcc	taccgtcgtc	ctgagcctta	taaaggcaag	480
ggtgttcgtt	acgccgacga	agtcgtgcgt	accaaagagg	ctaagaagaa	gtaa	534

<210> 158
 <211> 393
 <212> DNA
 <213> E. Coli

<400> 158						
atgagcatgc	aagatccgat	cgcggatatg	ctgaccgcta	tccgtaacgg	tcaggccgcg	60
aacaaagctg	cggtcaccat	gccttcctcc	aagctgaaag	tggaatcgc	caacgtgctg	120
aaggaagaag	gttttattga	agattttaaa	gttgaaggcg	acaccaagcc	tgaactggaa	180
cttactctga	agtatttcca	gggcaaagct	gttgtagaaa	gcattcagcg	gttcagccgc	240
ccaggctctgc	gcactataa	acgtaaagat	gagctgccga	aagttatggc	gggtctgggt	300
atcgagcttg	tttctacctc	taaagggtgtt	atgactgac	gtgcagcgcg	ccaggctggt	360
cttggtggcg	aaattatctg	ctacgtagcc	taa			393

<210> 159
 <211> 306
 <212> DNA
 <213> E. Coli

<400> 159						
atggctaagc	aatcaatgaa	agcacgcgaa	gtaaaacgcg	tagctttagc	tgataaatac	60
ttcgcgaaac	gcgctgaact	gaaagcgatc	atctctgatg	tgaacgcttc	cgacgaagat	120

cgttggaacg	ctgtttctcaa	gctgcagact	ctgccgcgtg	attccagccc	gtctcgtcag	180
cgtaaccgct	gccgtcaaac	aggtcgtccg	catgggtttcc	tgcggaagtt	cgggttgagc	240
cgtattaagg	tccgtgaagc	cgctatgcgc	ggtgaaatcc	cgggtctgaa	aaaggctagc	300
tggtaa						306

<210> 160

<211> 540

<212> DNA

<213> E. Coli

<400> 160

atggcgaaac	tgcattgatta	ctacaaagac	gaagtagtta	aaaaactcat	gactgagttt	60
aactacaatt	ctgtcatgca	agtccctcgg	gtcgagaaga	tcaccctgaa	catgggtggt	120
ggtgaagcga	tcgctgacaa	aaaactgctg	gataacgcag	cagcagacct	ggcagcaatc	180
tccggtcaaa	aaccgctgat	caccaaagca	cgcaaactctg	ttgcaggcctt	caaaatccgt	240
cagggctatc	cgatcggctg	taaagtaact	ctgcgtggcg	aacgcattgtg	ggagtctctt	300
gagcgcctga	tcactattgc	tgtacctcgt	atccgtgact	tccgtggcct	gtccgctaag	360
tctttcgacg	gtcgtggtaa	ctacagcatg	ggtgtccgtg	agcagatcat	cttcccagaa	420
atcgactacg	ataaagtcga	ccgcgttcgt	ggtttggata	ttaccattac	cactactgcg	480
aaatctgacg	aagaaggccg	cgctctgctg	gctgcctttg	acttcccgtt	ccgcaagtaa	540

<210> 161

<211> 315

<212> DNA

<213> E. Coli

<400> 161

atggcagcga	aaatccgtcg	tgatgacgaa	gttatcgtgt	taaccggtaa	agataaagg	60
aaacgcggta	aagttaagaa	tgtcctgtct	tccggcaagg	tcattgttga	aggtatcaac	120
ctgggttaaga	aacatcagaa	gccggttcgg	gccctgaacc	aaccgggtgg	catcgttgaa	180
aaagaagccg	ctattcaggt	ttccaacgta	gcaatcttca	atgcggcaac	cggcaaggct	240
gaccgtgtag	gcttttagatt	cgaagacggg	aaaaaagtcc	gtttcttcaa	gtctaacagc	300
gaaactatca	agtaa					315

<210> 162

<211> 372

<212> DNA

<213> E. Coli

<400> 162

atgatccaag	aacagactat	gctgaacgtc	gccgacaact	ccggtgcacg	tcgcgtaatg	60
tgtatcaagg	ttctgggtgg	ctcgcaccgt	cgctacgcag	gcgtaggcga	catcatcaag	120
atcaccatca	aagaagcaat	tccgcgtggg	aagggtcaaaa	aagggtgatgt	gctgaaggcg	180
gtagtggtgc	gcaccaagaa	gggtgttcgt	cgcccggacg	gttctgtcat	tcgcttcgat	240
ggtaatgctt	gtgttcttct	gaacaacaac	agcgagcagc	ctatcggtac	gcgtattttt	300
gggccggtaa	ctcgtgagct	tcgtagtgag	aagttcatga	aaattatctc	tctggcacca	360
gaagtactct	aa					372

<210> 163

<211> 567

<212> DNA

<213> E. Coli

<400> 163

atgttttaaag	gacaaaaaac	attggccgca	ctggccgtat	ctctgctggt	cactgcacct	60
gtttatgctg	ctgatgaagg	ttctggcgaa	attcacttta	agggggaggt	tattgaagca	120
ccttggtgaaa	ttcatccaga	agatattgat	aaaaacatag	atcttggaca	agtcacgaca	180

acccatataa	accgggagca	tcatagcaat	aaagtggccg	tcgacattcg	cttgatcaac	240
tgtgatctgc	ctgcttctga	caacggtagc	ggaatgccgg	tatccaaagt	tggcgtaacc	300
ttcgatagca	cggctaagac	aactgggtgt	acgcctttgt	tgagcaacac	cagtgcaggc	360
gaagcaactg	gggtcgggtg	acgactgatg	gacaaaaatg	acggtaacat	cgtattaggt	420
tcagccgcgc	cagatcttga	cctggatgca	agctcatcag	aacagacgct	gaactttttc	480
gcctggatgg	aacaaattga	taatgcagtc	gatgtcacgg	caggtgaagt	aaccgctaac	540
gcaacctacg	tgctggatta	taaataa				567

<210> 164

<211> 1284

<212> DNA

<213> E. Coli

<400> 164

atggctgata	caaaagcaaa	actcaccctc	aacggggata	cagctgttga	actggatgtg	60
ctgaaaggca	cgctgggtca	agatgttatt	gatatccgta	ctctcggttc	aaaagggtgtg	120
ttcacctttg	accagggtt	cacttcaacc	gcatacctgcg	aatctaaaat	tactttttatt	180
gatggatgatg	aaggtatttt	gctgcaccgc	ggtttcccgga	tcgatcagct	ggcgaccgat	240
tctaactacc	tggaagtttg	ttacatcctg	ctgaatgggtg	aaaaaccgac	tcaggaacag	300
tatgacgaat	ttaaaactac	ggtgaccgct	cataccatga	tccacgagca	gattaccgct	360
ctgttccatg	ctttccgctc	cgactcgcct	ccaatggcag	tcattgtgtg	tattaccggc	420
gcgctggcgg	cgttctatca	cgactcgcct	gatgttaaca	atcctcgtca	ccgtgaaatt	480
gccgcgttcc	gcctgctgtc	gaaaatgccg	accatggccg	cgatgtgtta	caagtattcc	540
attggtcagc	catttgttta	cccgcgcaac	gatctctcct	acgccggtaa	cttcctgaat	600
atgatgttct	ccacgccgtg	cgaaccgtat	gaagttaatc	cgattctgga	acgtgctatg	660
gaccgtattc	tgatcctgca	cgctgaccat	gaacagaacg	cctctacctc	caccgtgcgt	720
accgctggct	cttcgggtgc	gaaccgcttt	gcctgtatcg	cagcaggat	tgcttctactg	780
tggggacctg	cgcacggcgg	tgctaacgaa	gcggcgctga	aaatgctgga	agaaatcagc	840
tccgttaaac	acattccgga	atttgttcgt	cgtgcgaaag	acaaaaatga	ttctttccgc	900
ctgatgggct	tcggtcaccg	cgtgtacaaa	aattacgacc	cgcgcgccac	cgtaatgcgt	960
gaaacctgcc	atgaagtgtc	gaaagagctg	ggcacgaagg	atgacctgct	ggaagtggct	1020
atggagctgg	aaaacatcgc	gctgaacgac	ccgtacttta	tcgagaagaa	actgtacccg	1080
aacgtcgatt	tctactctgg	tatcatcctg	aaagcgatgg	gtattccgtc	ttccatgttc	1140
accgtcattt	tcgcaatggc	acgtaccgct	ggctggatcg	cccactggag	cgaaatgcac	1200
agtgcaggta	tgaagattgc	ccgtccgcgt	cagctgtata	caggatatga	aaaacgcgac	1260
tttaaaagcg	atatcaagcg	ttaa				1284

<210> 165

<211> 1434

<212> DNA

<213> E. Coli

<400> 165

atgaaagtaa	cgctgccaga	gtttgaacgt	gcaggagtga	tgggtggttg	tgatgtgatg	60
ctggatcggt	actggtacgg	ccccaccagt	cgatatctcg	cggaagcgcc	ggtgcccggtg	120
gttaaagtga	ataccatcga	agaacgtccg	ggcggcgcg	ctaactgtgc	gatgaatattc	180
gcttctctcg	gtgctaattg	acgcctgggtc	gggttgacgg	gcattgacga	tcgacgcgc	240
gcgctgagta	aatctctggc	cgacgtcaac	gtcaaatgcg	acttcgtttc	tgtaccgacg	300
catccgacca	ttaccaaatt	acgggtactt	tcccgcaacc	aacagctgat	ccgtctggat	360
tttgaagaag	gtttcgaagg	tggtgatccg	cagccgctgc	acgagcggtg	taatcaggcg	420
ctgagttcga	ttggcgcgct	ggtgctttct	gactacgcc	aaggtgcgct	ggcaagcgta	480
cagcagatga	tccaactggc	gcgtaaagcg	ggtgttccgg	tgctgattga	tccaaaagggt	540
accgattttg	agcgctaccg	cggcgctacg	ctgttaacgc	cgaatctctc	ggaatttgaa	600
gctgttgctg	gtaaatgtaa	gaccgaagaa	gagattgttg	agcgcggcat	gaaactgatt	660
gccgattacg	aactctcggc	tctgttagtg	acccgttccg	aacaggggat	gtcgtgctg	720
caaccgggta	aagcgccgct	gcatatgcc	acccaagcgc	aggaaagtga	tgacgttacc	780
ggtgcggggc	acacggtgat	tggcgtcctg	gcggcaacgc	tggcagcggg	taattcgtcg	840

gaagaagcct	gcttctttgc	caatgcgggc	gctggcggtg	tggtcggcaa	actgggaacc	900
tccacggttt	cgccgatcga	gctggaaaat	gctgtacgtg	gacgtgcaga	tacaggcttt	960
ggcgtgatga	ccgaagagga	actgaagctg	gccgtagcgg	cagcgcgtaa	acgtgggtgaa	1020
aaagtgggtga	tgaccaacgg	tgtctttgac	atcctgcacg	ccgggcacgt	ctcttatctg	1080
gcaaattgcc	gcaagctggg	tgaccgcttg	attgttgccg	tcaacagcga	tgctccacc	1140
aaacggctga	aaggggattc	ccgccgggta	aaccactcgc	aacagcgtat	gattgtgctg	1200
ggcgactggg	aagcggtcga	ctgggtagtg	tcgtttgaag	aggacacgcc	gcagcgttg	1260
atcgccggga	tcttgccaga	tctgctgggtg	aaaggcggcg	actataaacc	agaagagatt	1320
gccgggagta	aagaagtctg	ggccaacggg	ggcgaagtgt	tgggtgctcaa	ctttgaagac	1380
ggttgctcga	cgaccaacat	catcaagaag	atccaacagg	ataaaaaagg	ctaa	1434

<210> 166

<211> 2841

<212> DNA

<213> E. Coli

<400> 166

atgaagccgc	tctcttcacc	gttacagcag	tactggcaga	ccgttggtga	gcggctgcca	60
gagcctttag	ccgaggaatc	acttagcgcg	caggcgaagt	cagtacttac	ttttagtgat	120
tttgtgcagg	acagcgtgat	tgcgcatcca	gagtggctga	cggaactgga	aagccaaccg	180
ccgcaggccg	acgaatggca	gcattacgcg	gcatggttgc	aggaggcgc	ctgtaatgtg	240
agtgcgaag	ccgggttaat	gcgcgagctg	cggctattcc	ggcggcgcat	tatggtgcgc	300
atcgccctgg	cgcaaagcgt	ggcactgggt	actgaagaga	gcatattgca	gcagctcagc	360
tatctggcgg	agacgctgat	tgttgccggc	cgtgactggc	tgtatgacgc	ctgctgccgc	420
gagtggggaa	cgccgtgcaa	tgccgagggc	gaagcgcaac	cgctgctgat	tttaggcattg	480
ggtaagctgg	gcgggtggga	gctgaatttc	tcctctgata	tcgatctgat	ttttgctgg	540
ccggaacatg	ggtgtacgca	gggtggacgc	cgggaactgg	ataacgcgca	gttttttacc	600
cgcatggggc	agcggctgat	taaagtgcgt	gatcaaccaa	cgcaggatgg	cttcgtctat	660
cgcggtggata	tgcggtgcgc	tccgtttggc	gaaagtggcc	cgctgggtgc	gagctttgcc	720
gcgtttggaag	attattacca	ggagcagggg	cgcgactggg	agcgttacgc	gatggtcaag	780
gcgcggatta	tgggcgatag	cgaaggcgtc	tatgctaacg	agttgcgtgc	gatgctgcgc	840
ccgtttgttt	tccgtcggtta	catcgatttc	agcgtgattc	agtcgctgcg	caacatgaaa	900
gggatgattg	cccgtgaagt	gcgtcgacgt	ggtttgaccg	acaatatcaa	actcggcgca	960
ggcggcattc	gcgaaattga	atttatcggt	cagggtgtcc	agctcattcg	cggcggacgc	1020
gaaccgtcgc	tgcaatcgcg	ctctttactg	ccaacgctca	gcgccattgc	cgagctgcat	1080
ctgctttctg	aaaacgatgc	tgaacaattg	cgagtggcgt	atctgttcct	gcggcgtctg	1140
gaaaacctgc	tgcaaagcat	taacgacgaa	caaaccgaga	cgcttccttc	tgatgagctt	1200
aatcgtgcgc	ggctggcgtg	ggcgatggac	tttgctgact	ggccgcaact	gaccggggcg	1260
ctgaccgcac	atatgaccaa	tgtgcgccgg	gtgtttaatg	aattgattgg	cgacgatgaa	1320
agtgaactc	aggaagagtc	gctgtcggaa	cagtggcgtg	agctgtggca	ggatgcgttg	1380
caggaagatg	acactacgcc	agtgtggcgg	catcttagcg	aggatgatcg	caaacaggtg	1440
ctaacgctga	ttgccgattt	ccgcaaagag	ctggataaag	gcaccatcgg	gccgcgagga	1500
cgtcaggtgc	tcgaccatct	gatgccgcat	ctgctaagtg	atgtctgtgc	gcgtgaagac	1560
gctgccgtta	cgctgtcgcg	cattaccgcc	ttgctggtgg	ggattgttac	ccgcaccacc	1620
tatttagaat	tgctcagtga	attccccgcg	gcgcttaaac	atttgatttc	tctgtgtgcc	1680
gcgtcgccga	tgattgccag	ccagctggcg	cgttatccat	tattgctgga	tgaattgctc	1740
gatccaaaca	ccctttacca	gccgacggcg	accgatgcct	accgcgatga	gttgccgcag	1800
tatttgctgc	gcgtgccgga	agatgacgaa	gagcaacagc	ttgaggcgct	gcgtcagttc	1860
aaacaggcgc	agctgttacg	catcgccgca	gcggatatcg	ccggtacgct	accggtgatg	1920
aaagtgagcg	atcacttaac	ctggctggcg	gaagccatga	tagatgccgt	cgttcagcag	1980
gcgtgggttc	aaatggttgc	ccgctacggg	aagccgaatc	acctgaacga	acgcgaaggg	2040
cgtgggtttg	cggtggtcgg	ctacggcaag	ctgggcggct	gggagttagg	ctacagttcc	2100
gatcttgacc	ttatcttcct	ccatgattgc	ccaatggatg	cgatgactga	cggtgagcgg	2160
gaaatcgacg	ggcggcagtt	ttatctgcgt	ctggcgcaac	gcattatgca	tctgttcagt	2220
acgcgtacct	cttccggcat	tttgtatgaa	gtggatgctc	gactgcgtcc	gtccggggcg	2280
gcgggaatgc	tggtagacatc	cgcagaagca	tttgccgatt	atcagaaaaa	cgaggcctgg	2340
acgtgggaac	atcaggcgct	ggtgcgtgcg	cgtgtagtgt	acggcgatcc	gcagctcacc	2400

gcgcaactttg	acgcagtgcg	tcgcgagatt	atgacgctgc	cgcggtgaagg	taaaactctg	2460
caaacggaag	tgcgggaaat	gcgcgagaaa	atgcgcgctc	atctcggcaa	taaacatcgc	2520
gatcgctttg	atatcaaagc	tgatgaagg	ggaattaccg	atatcgaatt	tattacccaa	2580
tatctggtgt	tgcgctacgc	tcataaaaaa	ccgaagttaa	cgcgctggtc	agacaacgtg	2640
cgtattctgg	aactactggc	gcaaaacgac	attatggaag	agcaggaagc	gatggcgctg	2700
acccgtgctt	acactacgct	tcgcgatgaa	cttcacatc	tggcattaca	ggaattgccg	2760
ggccatgtgt	cggaggattg	cttcaccgca	gagcgtgaac	tgggtcgggc	aagctggcag	2820
aagtggctgg	tggaagaatg	a				2841

<210> 167
 <211> 1302
 <212> DNA
 <213> E. Coli

<400> 167						
atggctcagg	aaatcgaatt	aaagtattt	gttaatcaca	gtgccgttga	ggcgttgcgt	60
gaccatctca	atacgctggg	cggcgagcac	catgaccccc	tgcagttgct	gaatattttac	120
tacgaaacgc	cggataactg	gctgcgtggg	cacgatattg	gcttacgtat	tcgtggcgaa	180
aacggtcgct	atgagatgac	catgaaagtt	gcaggaagag	tgacaggcgg	cttacatcag	240
cgcccggaat	ataacgtggc	gttgagcgaa	ccgacgctcg	acctggcgca	gttaccgacg	300
gaagtctggc	cgaacggcga	attgcccggc	gatctcgcct	cccgcgtgca	gccgctgttc	360
agcaccgatt	tttatcgcg	aaaatggctg	gtggcggtcg	atggtagcca	aattgaaatc	420
gccctcgacc	agggggaagt	gaaagcgggt	gaatttgctg	aacctatctg	tgagctggaa	480
ctggaactgc	ttagcggcga	cacgcgcgcg	gtgctgaaac	tggcgaacca	actggtatcg	540
caaaccggat	tacgccaggg	cagcctgagc	aaagcggcgc	gtggctatca	tctggcgag	600
ggcaatccgg	cgcgtgaaat	caaaccgacc	accattttgc	atgttgcggc	aaaagccgat	660
gtggaacagg	ggctggaagc	ggcgctcgag	ctggcgtagg	cgcaatggca	gtatcatgaa	720
gaactgtggg	tacgcggcaa	cgatgcggcg	aaagaacagg	tgctggcagc	cattagcctg	780
gtccgtcata	cgtgatgct	gttcgggtgt	attgtgccgc	gtaaaagcag	cactcaacta	840
cgtgatctgc	tgactcaatg	cgaggcgacc	attgcttctg	cggtgtctgc	cgtgacggcg	900
gtctactcta	ccgaaacggc	aatggcgaag	ctggcggtga	ccgaatggtt	ggtaaagcaa	960
gcatggcagc	cattttttag	tgccaaagcg	cagggcacaaa	tcagcgactc	cttcaaacgc	1020
tttgccgata	tccatctttc	ccgccatgcc	gctgaactga	aaagcgtttt	ctgccagccg	1080
ttaggcgatc	gctaccgtga	ccagttgcca	cgctgacgc	gtgatattga	ctcaatactg	1140
ttgctggcgg	gttactatga	tctgtctgtc	gcgcaagcct	ggctggagaa	ctggcagggg	1200
ctgcatcacg	ctattgcgac	cgggcaacgc	atcgaaattg	aacatttccg	taatgaggca	1260
aacaatcagg	aaccgttctg	gttgcacagc	ggaaaacggt	aa		1302

<210> 168
 <211> 213
 <212> DNA
 <213> E. Coli

<400> 168						
atgtccggta	aaatgactgg	tatcgtaaaa	tggttcaacg	ctgacaaagg	cttcggcttc	60
atcactcctg	acgatggctc	taaagatgtg	ttcgtacact	tctctgctat	ccagaacgat	120
ggttacaaat	ctctggacga	aggtcagaaa	gtgtccttca	ccatcgaaag	cggcgctaaa	180
ggccccgcag	ctggtaacgt	aaccagcctg	taa			213

<210> 169
 <211> 1572
 <212> DNA
 <213> E. Coli

<400> 169						
atgagggaca	ttgtggaccc	tgtattctct	atcggtatct	catcattatg	ggatgagctg	60
cgacatatgc	cagcaggcgg	cgtctggtgg	tttaacgtcg	atcgccatga	agatgctatc	120

agtctggcga	atcaaacaat	tgcattcccag	gctgaaaccg	cacacgtcgc	ggtcattagc	180
atggacagcg	atccggcgaa	aatcttttcaa	ttagatgatt	ctcaagggcc	ggaaaaaata	240
aaattatatt	caatgctaaa	tcataaaaaa	ggctctatact	atctgaccgc	tgattttgcag	300
tggtctattg	atccccataa	ttaccttttt	attctttgttt	gcgcaataaa	cgcattggcaa	360
aacattcctg	ccgagcggct	tcgctcatgg	ttggataaaa	tgaataaatg	gagcagggtta	420
aaccattggt	cgctttttggt	aattaatccc	ggaaataata	acgataaaca	atctttcattg	480
ttgcttgagg	aattaccgttc	acttttttgg	cttgccagtt	tgctgttttca	gggtgaccaa	540
catttgctgg	atattgcctt	ctgggtgcaac	gaaaaagggg	tcagcgcccg	tcagcagctt	600
agcgttcagc	aacaaaaatg	tatctggaca	ttagttcaaa	gcgaagaggc	ggagatccaa	660
ccacgcagcg	acgaaaaacg	cattctgagt	aatgttgctg	tactggaagg	tgccgcgccc	720
ctatcggaac	actggcaact	gttcaacaat	aacgaagtcc	tggtcaatga	agcccgctacc	780
gctcaggcgg	cgacgggtgt	cttttcttta	cagcaaatg	cgcaaatcga	gccactggcc	840
cgcagcattc	ataccctgcg	tcgccagcgc	ggtagtgaga	tgaaaatcct	cgtgcgggaa	900
aataccgcta	gcctgcgcgc	caccgatgaa	cgtttggtat	tgccctgcgg	tgcaaatatg	960
gttattccgt	ggaatgcgcc	actctcccgt	tgtctgacga	tgatcgaaaag	cgtgcaaggg	1020
cagaagttaa	gtcgcctatg	gccggaagat	atcactacct	tgctgtcaat	gacccagccg	1080
ctcaaactgc	gtggtttcca	gaagtgggat	gtgttctgta	atgccgtcaa	caacatgatg	1140
aataaccctc	tattacctgc	ccacggtaaa	ggcgttctgg	ttgccctacg	tcgggtaccg	1200
ggtatccgcg	ttgaacaagc	cctgacgctg	tgctgcccta	accgtaccgg	cgatatcatg	1260
accattggcg	gtaatcggtc	ggtgctgttt	ctctcattct	gtcggattaa	cgatctggat	1320
accgcgttga	atcatatttt	cccattgcct	actggcgaca	ttttctcaaa	ccgtatggtc	1380
tggtttgaag	atgatcaaat	cagtgcgcag	ctgggtgcaga	tgccgttgct	tgccccagaa	1440
caatggggca	tgccgctgcc	tttaacgcaa	agttctaaac	cggtcatcaa	tgccgagcac	1500
gatggtcgcc	actggcgacg	aataccagaa	cccatgcgac	tgtagatga	tgctgtggag	1560
cgctcatcat	ga					1572

<210> 170

<211> 189

<212> DNA

<213> E. Coli

<400> 170

atgaccatca	gcgatatcat	tgaaattatt	gtcgttttgcg	caactgatatt	tttcccgtctg	60
ggctatctgg	cgcggcactc	tttgcgacgc	attcgcgaca	ccttacgttt	gttctttgct	120
aaacctcggt	atgttaaacc	ggccgggacg	ttacgcgcga	cggaaaaagc	cagggcaacc	180
aaaaaatga						189

<210> 171

<211> 1680

<212> DNA

<213> E. Coli

<400> 171

atgactcaat	ttacgcaaaa	taccgccatg	ctttcttccc	tctggcaata	ctggcgcggc	60
ctttccggct	ggaacttcta	ttttctgggt	aagtccggcc	tggtgtgggc	gggatattct	120
aacttccatc	cgctcctcaa	tttggtgttt	gccgcgtttc	tgctgatgcc	ccttccgcgc	180
tacagcctgc	atcgcttgcg	ccactggatt	gccctgccga	tcggctttgc	tttggtctgg	240
catgacacct	ggttgccctg	cccggaaaagc	ataatgagcc	agggttcgca	ggtggcgggg	300
ttcagtaccg	attattttaat	cgaccttgct	acacgcttta	ttaactggca	gatgattggg	360
gccatttttg	ttttattagt	ggcctgggtta	ttctgtcac	aatggattcg	cattaccgtt	420
tttggtgggtg	ccatactgct	atggctgaac	gtacttacct	tgccgggacc	aagtttctcc	480
ttgtggccag	ccggacaacc	gacgaccact	gtaacaacga	cgggtggtaa	cgcagcggca	540
accgttgccg	cgacgggttg	cgacccggta	gtgggtgata	tgcccgcaca	aactgcaccg	600
ccaacaacgg	cgaaccttaa	cgccctggctg	aataatttct	ataacgcgga	ggcgaaacgt	660
aaatcgacct	tcccgtcttc	gctgcccgtc	gatgctcagc	catttgaaact	actggtgatt	720
aacatctggt	cgctttcctg	gtcgcatata	gaagccgcgc	ggttgatgtc	gcatccactg	780
tggtcgcatt	tcgatattga	gttcaagaac	tttaactccg	ccacctccta	cagtggcccc	840

gcggcgatcc	gtttactgcg	cgccagctgc	gggcagactt	cgcacactaa	tctgtatcaa	900
ccggcaaata	acgactgcta	tctgtttgat	aaccttttga	aactgggctt	taccagcac	960
ctgatgatgg	gacataacgg	ccagttcggc	ggttttttga	aagaagttcg	cgaaaatggc	1020
ggcatgcaga	gcgaattgat	ggatcaaaca	aatctgccc	ttattttgct	gggctttgat	1080
ggttcgccgg	tttatgacga	taccgctgtg	cttaaccgct	ggctggacgt	taccgaaaaa	1140
gataaaaaca	gccgtagtgc	cacgttctac	aacacgcttc	cactgcatga	cggcaaccat	1200
tatccggggg	tcagcaaaac	agcggattac	aaagcgcggg	cgcagaaatt	ctttgatgaa	1260
ctggacgcct	tctttactga	acttgagaaa	tcgggtcgta	aagtgatggg	ggcgtgggtg	1320
ccggaacacg	gcggcgcgct	gaagggcgac	agaatgcagg	tatctggcct	acgtgatatc	1380
cctagcccgt	ctatcaccca	cgtccccgtt	ggggtgaaat	tcttcggcat	gaaggcaccg	1440
catcaggggg	caccgattgt	catcgaacaa	ccgagcagct	tcctggctat	ctccgatctg	1500
gtggttcgcg	ttctcgatgg	caagattttc	accgaagaca	atgttgactg	gaaaaaactc	1560
accagtgggt	tgccacaaac	agcaccggtc	tccgagaact	caaatgcagt	agttattcaa	1620
taccaggata	aaccgtacgt	tcgcctgaac	ggcggcgact	gggtgcctta	cccgcagtaa	1680

<210> 172
 <211> 384
 <212> DNA
 <213> E. Coli

<400> 172						
atggaaggtt	caagaatgaa	ataccgcctc	gctttagctg	tttctctctt	tgctcttagt	60
gccggtagtt	atgccactac	cctgtgtcag	gaaaaggagc	aaaatatcct	taaggagatc	120
agctatgccg	aaaaacacca	aaaccagaat	cgtattgacg	gtctgaataa	agccctgagt	180
gaagtccggg	ccaactgttc	agatagccag	ctgcgtgccg	atcatcagaa	gaaaatcgca	240
aagcagaaa	atgaggtggc	ggaacgccag	caagatttag	ccgaggcgaa	gcaaaaaggc	300
gatgccgata	agattgcca	acgcgaacgg	aaactggcag	aagcgcagga	agagctgaaa	360
aagctggaag	cgcgcgacta	ctaa				384

<210> 173
 <211> 306
 <212> DNA
 <213> E. Coli

<400> 173						
atgtcgaaa	aacacactac	ggaacatctg	cgtgctgagt	tgaaatccct	ttccgatacg	60
ctggaagagg	tgcttagctc	atctggcgag	aagtcgaaa	aagagttgag	taagattcgt	120
agcaaagcgg	agcaggcact	gaaacagagc	cgttatcgcc	tgggtgaaac	cggatgatgcc	180
attgccaaac	aaaccctgtg	cgcggcggcg	cgtgccgatg	agtatgtgcg	cgaaaatccg	240
tggacggggc	tgggcattgg	cgtgcaatc	ggtgtagtgc	tcggcggttct	gctgtcgcgt	300
cgttaa						306

<210> 174
 <211> 405
 <212> DNA
 <213> E. Coli

<400> 174						
atggcggaca	ctcatcacgc	acaagggccc	ggtaaaagcg	ttctgggcat	cgggcagcga	60
attgtttcta	tcattggtga	aatggtagag	acacgtctgc	ggctggcggt	gggtggagctg	120
gaagaggaaa	aagcgaatct	ctttcaactt	ttactgatgc	tgggcctgac	gatgcttttc	180
gctgcatttg	gtcttatgag	cctgatgggtg	ctaattatct	gggcgggttg	cccgaatat	240
cgctgaatg	cgatgattgc	caccacogtg	gtgttgctgc	tactggcact	gattggcggt	300
atctggacgc	tacgtaaatc	gcgtaagtct	acgttgctgc	gccatacacg	ccatgagtta	360
gcaaacgate	ggcagctgct	cgaggaggag	tcccgtgagc	agtaa		405

<210> 175

<211> 300
 <212> DNA
 <213> E. Coli

<400> 175

gtgagcagta	aagtcgaacg	tgaacgacgt	aaggcgcaac	tgcttagcca	gatccagcaa	60
caacggctgg	atctttccgc	cagtcgtcgt	gaatggctgg	agacaacagg	cgcttacgat	120
cgtcgctgga	atatgctgct	aagtctgcgc	tcctgggcgc	tggttggcag	tagcgtgatg	180
gcgatctgga	cgattcgcca	tcctaataatg	ctggctccgt	gggccagacg	cggttttggc	240
gtatggagcg	cctggcgtct	ggttaaaacg	accctcaagc	agcaacagct	tcgcggttaa	300

<210> 176
 <211> 483
 <212> DNA
 <213> E. Coli

<400> 176

atgattctct	ccatcgacag	caacgacgct	aataccgcgc	cattgcacaa	aaaaacaatc	60
agcagcctga	gtggcgagct	ggagagtatg	atgaaaaaat	tagaagatgt	tggtgtactg	120
gtagcgcgca	ttttaatgcc	gattctgttt	attaccgctg	gctggggaaa	aattactggc	180
tacgcgggta	cccaacaata	tatggaagca	atgggcgtcc	cggtttttat	gctgccactg	240
gtgattctgc	ttgagtttgg	tggtgggtctg	gcaatcctgt	tcggtttcct	gactcgcacc	300
acagccctgt	ttactgcggg	ctttacgctg	ctgacggcat	ttttatttca	cagcaacttt	360
gctgaaggcg	tcaactcgct	gatgttcatg	aaaaacctga	caatttctgg	cggattcctg	420
ctgctggcaa	ttaccgggtc	gggcgcgtat	agcatcgacc	gcctgctgaa	taaaaagtgg	480
taa						483

<210> 177
 <211> 891
 <212> DNA
 <213> E. Coli

<400> 177

atgatcaaga	agacaacgga	aattgatgcc	atcttggttaa	atctcaataa	ggctatcgat	60
gccactacc	agtggctggt	gagtatgttt	cacagcgtgg	tcgcgagaga	tgccagtaag	120
ccagaaaataa	cggataacca	ttcttatgga	ctgtgccagt	ttggtcggtg	gattgatcat	180
ctggggccac	tcgataacga	tgaattacct	tacgttcggc	taatggattc	tgcccatcaa	240
catatgcata	actgtggtcg	ggaattaatg	ctggctattg	ttgaaaatca	ctggcaggac	300
gcgcatttcg	acgcctttca	ggaggggttg	ctttctttta	ctgcggcatt	aaccgattac	360
aaaattttatt	tgctgacgat	ccgtagcaat	atggatgttt	tgacgggatt	gccgggtcgt	420
cgggttcttg	atgaatcctt	tgatcatcag	ttacgcaacg	ctgagcctct	gaatctttat	480
ttaatgttgt	tggatattga	ccgattttaa	ttggttaatg	atacctacgg	gcatttaatc	540
ggcgtatgtg	tattacgcac	cctggcaact	tacttagcca	gttggacgcg	tgattacgaa	600
acggtttatc	gctacggggg	cgaagaattt	atcattattg	tcaaagcggc	taatgatgaa	660
gaagcatgtc	gtgcagggtg	cagaatttgc	cagttagtgc	ataacccatg	catcacacat	720
tctgaagggc	atatcaacat	taccgtgaca	gcagggtgtg	gtcgcgcatt	tcctgaagag	780
cctctggatg	tggtcattgg	aagagcggac	cgggcaatgt	atgagggtaa	gcaaaccgga	840
agaaatcgct	gcatgtttat	tgacgaacaa	aatgtgatta	accgagttta	a	891

<210> 178
 <211> 612
 <212> DNA
 <213> E. Coli

<400> 178

atgcgccttc	gtgttgtgcc	cggtttttatt	tcaccacctc	cgggcttcgg	tggtctcggc	60
tataccccta	cagcgagagc	ttgtgttaac	atttcaatac	ccttacagtt	gagagttatt	120

gatatgttgg	atgtatttac	tccattgttg	aaactttttg	ctaacgagcc	actcgaaaga	180
cttatgtata	cgattatcat	ttttggtctc	actctctggc	tgataccgaa	agagtttact	240
gtcgcattca	atgcttatac	tgaaatacct	tggtctcttc	agattatcgt	ttttgccttt	300
tctttcgtgg	tcgccatttc	cttctcaaga	ttgcgagcac	atattcaaaa	gcattattca	360
ttactaccag	agcaacgagt	attgcttcgt	ttatctgaga	aagaaatcgc	tgtattttaa	420
gatttcctta	aaacaggaaa	tcttattatc	acttctcctt	gccgtaacct	ggttatgaaa	480
aaattagaac	ggaagggcat	cattcaacat	cagagtgata	gcgcaaactg	ttcttattat	540
ctcgtcaccg	aaaaatactc	ccatttttatg	aagttattct	ggaacagcag	gagtagacgt	600
tttaatcggt	ag					612

<210> 179

<211> 177

<212> DNA

<213> E. Coli

<400> 179

gtgcttctcc	aaccatcggc	gcgccaccagt	ttcgggtttta	aatgttttgc	ttttggtata	60
cgtcatggca	gtgaacgttc	catcctgggt	ggggaacacg	ccgcacacca	gggattcgtt	120
gttgccgagg	tcgatttttt	gcattttgcg	aatctcacat	cttggtgcta	cgtatag	177

<210> 180

<211> 4281

<212> DNA

<213> E. Coli

<400> 180

atgagcggaa	aaccagcggc	gcgtcaggga	gatatgactc	agtatggcgg	tcccattgtc	60
cagggttcgg	cagggttaag	aattggcgcg	cccaccggcg	tggcggtgctc	ggtgtgtccg	120
ggcgggatga	cttcggggcaa	cccggtaaat	ccgctgctgg	gggcgaaggt	gctgcccggc	180
gagacggacc	ttgcgctgcc	cggcccgcgtg	ccgttcattc	tctcccgcac	ctacagcagc	240
taccggacga	agacgcctgc	accggtgggc	gttttcggcc	ccggctggaa	agcgccttct	300
gatatccgct	tacagctacg	tgatgacgga	ctgatactca	acgacaacgg	cgggcggagc	360
attcactttg	agccgctgct	gccgggggag	gcgggtgtaca	gccgcagtga	gtcaatgtgg	420
ctggtgcgcg	gtggttaaggc	agcacagccg	gacggccata	cgttgccgcg	gctgtggggg	480
gcgctgccgc	cggatatccg	gttaagcccg	catctttacc	tggcgaccaa	cagcgcacag	540
gggccgtggt	ggatactggg	gtggtctgag	cgggtgccgg	gtgctgagga	cgtactgccca	600
gcgccgctgc	cgccgtaccg	ggtgcttacc	gggatggcgg	accgcttcgg	gcggacgctg	660
acgtaccggc	gtgaggccgc	cggtgacctg	gccggggaaa	tcaccggcgt	gacggacggt	720
gccgggcggg	agttccgtct	ggtgctgacc	acgcaggcgc	agcgtgcgga	agaggcccgc	780
acctcttcgc	tatcttcttc	tgacagttcc	cgcctctctc	cagcctcagc	gttccccgac	840
acactgcccg	gtaccgaata	cggccccgac	aggggtatcc	gcctttcggc	ggtgtggctg	900
atgcacgacc	cggcataccc	ggagagcctg	cccgtgcgc	cactggtgcg	gtacacgtat	960
acggaagccg	gtgaactgct	ggcgggtatat	gaccgcagca	atacgcagggt	gcgcgctttc	1020
acgtatgacg	cgcagcaccc	gggcccggatg	gtggcgcacc	gttacgcggg	aaggccggag	1080
atgcgctacc	gctacgacga	tacggggcgg	gtggtggagc	aactgaaccc	ggcagggtta	1140
agctaccgct	atcttttatga	gcaggaccgc	atcaccgtca	ccgacagcct	gaaccggcgt	1200
gaggtgctgc	atacagaagg	cggggccggg	ctgaaacggg	tggtgaaaaa	agaactggcg	1260
gacggcagcg	tcacgcgcag	cgggtatgac	gcggcaggaa	ggctcacggc	gcagacggac	1320
gcggcgggac	ggaggacaga	gtacggtctg	aatgtggtgt	ccggcgatat	cacggacatc	1380
accacaccgg	acgggcggga	gacgaaattt	tactataacg	acgggaacca	gctgacggcg	1440
gtggtgtccc	cggacgggct	ggagagccgc	cgggaatatg	atgaaccggg	caggctggta	1500
tcggagacat	cgcgcagcgg	ggagacagta	cgtaccgct	acgatgacgc	gcacagttag	1560
ttaccggcga	cgacaacgga	tgcgacgggc	agcaccgggc	agatgacctg	gagccgctac	1620
gggcagttgc	tggcggttac	cgactgctcg	ggctaccaga	cccgttatga	atacgaaccg	1680
ttcggccaga	tgacggcggt	ccaccgcgag	gaaggcatca	gcctttaccg	ccgctatgac	1740
aaccgtggcc	ggttaacctc	ggtgaaagac	gcacagggcc	gtgaaacgcg	gtatgaatac	1800
aacgccgcag	gcgacctgac	tgccgttatc	accccgagcg	gcaaccggag	cgagacacag	1860

tacgatgcgt	ggggaaaggc	ggtcagcacc	acgcagggcg	ggctgacgcg	cagtatggag	1920
tacgatgctg	ccggacgtgt	catcagcctg	accaacgaga	acggcagcca	cagcgtcttc	1980
agttacgatg	cgctggaccg	gctggtacag	cagggcggtt	ttgacggggc	gacgcaacgt	2040
tatcattatg	acctgaccgg	aaaactcaca	cagagtgagg	atgagggact	tgtcatcctc	2100
tggtactacg	atgaatcgga	ccgtatcact	caccgcacgg	tgaacggcga	accggcagag	2160
cagtggcagt	atgatggcca	cggctggctg	acagacatca	gccacctgag	cgaaggccac	2220
cgtgttgccg	tccactatgg	ctatgacgat	aaaggccgcc	tgaccggcga	atgccagacg	2280
gtggagaacc	cggagacggg	ggaactgctg	tggcagcatg	agacgaaaca	cgcatacaac	2340
gagcaggggc	tggcaaaccg	cgtcacgccg	gacagcctgc	cgccggtgga	gtggctgacg	2400
tatggcagcg	gttacctggc	gggaatgaag	ctgggcggga	cgccgctggt	cgagtatacg	2460
cgggacaggc	tgcaccgtga	gacggtgcgc	agcttcggca	gcatggcagg	cagtaatgcc	2520
gcatacgaac	tgaccagcac	atacaccccc	gcaggccagt	tacagagcca	gcacctgaac	2580
agcctggtat	atgaccgtga	ctacgggtgg	agtgacaacg	gcgacctggt	gcgcctcagc	2640
ggcccgcgac	agacgcggga	atacggctac	agcgccacgg	gcaggctgga	gagtgtgcgc	2700
accctcgcac	cagacctgga	catccgcac	ccgtatgcc	cggacccggc	gggcaaccgg	2760
ctgccggacc	cggagctgca	cccggacagt	acactcacag	tgtggccgga	taaccgcac	2820
gcggaggatg	cgcactatgt	ctaccgccac	gatgaatacg	gcaggctgac	ggagaagacg	2880
gaccgcatcc	cggcggtgtg	gatacggacg	gacgacgagc	ggaccacca	ctaccactac	2940
gacagccagc	accgcctggt	gttctacacg	cggatacagc	atggcgagcc	actggtcgag	3000
agccgctacc	tctacgaccc	gctgggacgg	cgaatggcaa	aacgggtctg	gcggcgggag	3060
cgtgacctga	cggggtggat	gtcgctgtcg	cgtaaaccgg	aggtgacgtg	gtatggctgg	3120
gacggagaca	ggctgacgac	ggtgcagact	gacaccacac	gtatccagac	ggtatacgag	3180
ccgggaagct	tcacgccgct	catccgggtc	gagacagaga	acggcgagcg	ggaaaaagcg	3240
cagcggcgca	gcctggcaga	gacgctccag	caggaaggga	gtgagaacgg	ccacggcgtg	3300
gtgttcccg	ctgaactggt	gcggctgctg	gacaggctgg	aggaagaaat	ccgggcagac	3360
cgcgtgagca	gtgaaagccg	ggcgtggctt	gcgcagtgcg	ggctgacggt	ggagcaactg	3420
gccagacagg	tggagccgga	atacacaccg	gcgcgaaaag	ctcatcttta	tcactgcgac	3480
caccggggac	tgccgctggc	gcttatcagc	gaagacggca	atacggcgtg	gagcgcggaa	3540
tatgatgaat	ggggcaacca	gcttaatgag	gagaacccgc	atcatgtgta	tcagccgtac	3600
cgtctgccag	ggcagcagca	tgatgaggaa	tcagggtgtg	actataaccg	tcaccggtac	3660
tacgatccgt	tgcagggggc	gtatatatt	caggacccga	tggggttgaa	agggggatgg	3720
aatttatatc	agtatccttt	aaatccacta	caacaaattg	accctatggg	attattgcag	3780
acttgggatg	atgccagatc	tggagcatgt	acggggggag	tttgtggtgt	tctttcacgt	3840
ataataggac	caagtaaatt	tgatagtact	gcagatgctg	cgttagatgc	tttgaaagaa	3900
acgcagaata	gatctctatg	taatgatatg	gaatactctg	gtattgtctg	taaagatact	3960
aatggaaaat	attttgcatc	taaggcagaa	actgataatt	taagaaagga	gtcatatcct	4020
ctgaaaagaa	aatgtcccac	aggtacagat	agagttgctg	cttatcatac	tcacggtgca	4080
gatagtcatg	gcgattatgt	tgatgaattt	ttttcaagta	gcgataaaaa	tcttgtaaga	4140
agtaaagata	ataatcttga	agcattttat	ctcgcaacac	ctgatggacg	atgtgagggc	4200
cttaataata	aaggagaata	tatttttatc	agaaatagtg	tcccgggatt	gagttcagta	4260
tgcataccgt	atcatgatta	a				4281

<210> 181

<211> 369

<212> DNA

<213> E. Coli

<400> 181

atgaaatata	gttcaatatt	ttcgatgott	tcatttttta	tactatattgc	ctgtaatgag	60
acagctgttt	acggttctga	tgaaaacatt	atttttatga	ggtatgtgga	aaaattacat	120
ttagataaat	actctgttaa	aaatacggta	aaaactgaaa	caatggcgat	acaattagct	180
gaaatatatg	ttaggtatcg	ctatggcgaa	cggattgcag	aagaagaaaa	accatattta	240
attacggaac	taccagatag	ttgggttggt	gagggagcaa	agttacctta	tgaagttgcg	300
ggtggtgtat	ttattataga	aattaataag	aaaaatggat	gtgttttgaa	tttcctacat	360
agtaaataa						369

<210> 182

<211> 711
 <212> DNA
 <213> E. Coli

<400> 182

atgctggcgc	tgatggatgc	ggatggaaac	attgcggtga	gcggggagta	tgatgagtgg	60
ggcaaccagc	tgaatgaaga	gaacccgcat	cacctgcacc	agccgtaccg	gctgccgggg	120
cagcagtatg	ataaggagtc	ggggctgtac	tacaaccgga	accggtacta	cgatccgttg	180
caggggcggg	atatcactca	ggacccgata	gggctggagg	ggggatggag	tctgtatgcg	240
tatccgctga	atccggtgaa	tggtattgat	ccattagggg	taagtcccg	agatgtagcg	300
ctaataagaa	gaaaagatca	actaaaccat	caaagagcat	gggatataat	atctgatact	360
tatgaagata	tgaagagatt	aaatttaggt	gggactgac	aatttttcca	ttgtatggca	420
ttttgtcgag	tgtctaaatt	aatgacgct	gggtgttagc	gatcggcgaa	agggctgggt	480
tatgaaaaag	agattagaga	ttacgggtta	aatctgttcg	gtatgtacgg	cagaaaagta	540
aagctatccc	attctgaaat	gattgaagat	aataaaaaag	acttggctgt	aaatgaccat	600
gggttgacat	gtccatcaac	aacagattgc	tcagatagat	gtagtgatta	tattaatcca	660
gagcataaaa	aaacgataaa	ggctttacaa	gatgctggct	atctcaagta	a	711

<210> 183
 <211> 261
 <212> DNA
 <213> E. Coli

<400> 183

atgctggcta	tctcaagtaa	tctatcaaag	atgataatat	ttatttttgc	tattataatc	60
attgttgttt	tatgcgtaat	tacttatctt	tatttataca	aagatgaatc	tcttgaagt	120
aaacattaca	taaactatat	ggcaatacca	gaaaatgatg	gagtttttac	atggctccca	180
gatttttttc	cgcacgtagc	ggtggatata	tcaatataca	caaagttaga	agatgattat	240
ttttttctta	tttttcctta	a				261

<210> 184
 <211> 192
 <212> DNA
 <213> E. Coli

<400> 184

gtgagggccca	gggaacaagt	ggcgaaaatc	gtatcaaaga	atgatccaga	tacaaaaaaa	60
gtgtggtgta	aatatggtaa	gataccaggg	caaggggatg	gtgtaaacct	tttttttgtt	120
ggtgaaatta	atgttacgca	ttattttata	acaaatattg	gagctggatt	gcctgatgct	180
tgtgcagagt	aa					192

<210> 185
 <211> 504
 <212> DNA
 <213> E. Coli

<400> 185

atgccgggca	acagcccgc	ttatgggcgt	tggcctcaac	acgattttac	gtcacttaaa	60
aaactcaggc	cgcagtcggt	aacctcgcgc	atacagccgg	gcagtgcagt	catcgtctgc	120
gcggaaatgg	acgaacagtg	gggctatgtc	ggggctaaat	cgcgccagcg	ctggctgttt	180
tacgcgtatg	acagtctccg	gaagacgggt	gttgcgacg	tattcggtga	acgcactatg	240
gcgacgctgg	ggcgtcttat	gagcctgctg	tcaccctttg	acgtgggtgat	atggatgacg	300
gatggctggc	cgctgtatga	atccgcctg	aagggaaagc	tgcacgtaat	cagcaagcga	360
tatacgacgc	gaattgagcg	gcataacctg	aatctgaggc	agcacctggc	acggctggga	420
cggaagtcgc	tgctgttctc	aaaatcgggtg	gagctgcatg	acaaagtc	cgggcattat	480
ctgaacataa	aacactatca	ataa				504

<210> 186
 <211> 276
 <212> DNA
 <213> E. Coli

<400> 186
 gtggcttctg tttctatcag ctgtccctcc tgttcagcta ctgacggggt ggtgcgtaac 60
 ggcaaaagca ccgccggaca tcagcgctat ctctgctctc actgccgtaa aacatggcaa 120
 ctgcagttca cttacaccgc ttctcaaccc ggtacgcacc agaaaatcat tgatatggcc 180
 atgaatggcg ttggatgccg ggcaacagcc cgcattatgg gcgttggcct caacacgatt 240
 ttacgtcact taaaaaactc aggccgcagt cggtaa 276

<210> 187
 <211> 417
 <212> DNA
 <213> E. Coli

<400> 187
 atgatgacta aaacccaaataaataaatta ataaaaatga tgaatgattt agactatcca 60
 tttgaagcac cgctcaagga atcattttatt gaaagtataa tccaaataga atttaattct 120
 aattcaacta attgcctgga gaagtattatgt aatgaagtta gtattccttt taagaatcaa 180
 cctgattatc ttactttttt aagagcaatg gatggattcg aagttaatgg attacgatta 240
 tttagcctct cgattccaga accttcagtt aaaaaccttt ttgccgtaaa tgaattttat 300
 agaaataatg atgatttcat aaaccctgat ctacaagaac ggtagtgat cggggattat 360
 agcatttcaa tatttactta tgacattaaa ggtgatgctg ccaacttact gatttag 417

<210> 188
 <211> 1179
 <212> DNA
 <213> E. Coli

<400> 188
 atgagtaata ttgtttacct gacagtaacg ggagaacaac aaggaagcat ctccgcaggt 60
 tgtgggactt ctgagtctac aggtaatcgt tggcagagcg ggcatgagga tgaaatatct 120
 acattctcac tcttaaataa tattaataat acggggcttg gttcacagtt ccatgggtata 180
 acattttgta aattaattga taaaagcact ccattattta ttaattccat taacaataat 240
 gaacaattat ttatgggatt tgacttctat cgaataaata gatttggtag attggaaaag 300
 tattattata tacaactaag aggcgctttt ttatcggcta ttcattacca gatcattgaa 360
 aaccaactgg atacagaaac aataactatt agttatgaat ttatcctctg tcaacatctt 420
 atcgcaaata ccgagttcag ctatttggca ctccctgaaa attataaccg tttgttttta 480
 ccaaattcaa aaaaccaaac aaataatcgt ttcaaaacgt taaacagcaa agctattggc 540
 aggctacttg ctgctggtgg cgtatacaat gggaacattg aaggattcag agatactgcg 600
 gaaaaactgg gtggagatgc aataaaaaggc tatgatcaaa tactaaatga aaaaacagcg 660
 ggcatagcga tagcaacagc atctattctt agagggtcaac aaaaacttct tgatgggtata 720
 acagaaataa atagtactt aggcataactt agagggtcaac aaaaacttct tgatgggtata 780
 gacataatag aaataatata cattaagaga ccttcaaaaag acttagctaa cttacgaaaag 840
 gagtttaata aaactgtaag aaaaaatttt cttatcaaac ttgcaaaaac ctccgaagca 900
 tctggaagat tcaacgccga agacctttta agaattgagaa agggcaatgt tcctctaaat 960
 tataatgttc accataaaact atctctagat gatgggtggt ctaattgattt cgaaaattta 1020
 gtattaatcg aaaacgaacc atatcataaa gtttttacta acatgcaatc acgaatagct 1080
 aagggaatat tagtaggtga aagcaaaatc actccctggg ccattccatc tggctcaatt 1140
 tatcctccca tgaaaaatat tatggaccac acaaaaatga 1179

<210> 189
 <211> 666
 <212> DNA
 <213> E. Coli

<400> 189
atggtacttg ctttgaacta taatatgcac ggagttaata ttcgctcaga gaatgcagca 60
aaacctcata cgatgccctc tagatatctt tgcgagtata ttagaagcat tgagaaaaat 120
ggccacgccc ttgatttttg ctgcggaaaa cttagatatt ctgatgaatt aatcagtaaa 180
tttgatgaag ttacttttct agactcgaaa aggcaacttg aaagagagca aattattaga 240
ggaattaaaa ctaaaattat tgactatgtc ccacgatatt ataaaaatgc aaatacagtt 300
gctttcgagg atgtcgacaa aataattggg ggttacgatt tcctcctttg ctctaattgtt 360
ctctctgccg ttccttgctg ggatacaatc gacaaaatag ttcttagcat caagagatta 420
ctaaaatcag gaggtgagac tcttattgta aatcaatata aaagctcata cttcaaaaaa 480
tacgaaacag gaagaaaaca tctttacgga tacattttaca aaaattcaaa aagtgtttct 540
tactatggat tactcgatga actcgcagtg caagaaatat gttcttcaca tggccttgaa 600
atattaaagt cgtggagtaa agcaggaagt tcatatgtca ctggtgggag ttgtaatgca 660
atataa 666

<210> 190
<211> 705
<212> DNA
<213> E. Coli

<400> 190
gtgaataata tgttcgaacc ccccaaaaat tataatgaaa tgttgccctaa acttcataaa 60
gcaactttct taaatacgct aatatattgc atacttctag ttatttacga atacatccct 120
ttaataacat taccaaccaa gtatgtccca cctattaaag atcatgagag ctttattaat 180
tgggcactat cttttgggat attaccttgt gcttttgcca tttttgcata tttaattagc 240
ggtgcgttag acctacataa caatgcagcc aaactacttc ggggtgcgata tctttgggat 300
aagcatctaa ttataaaaacc gttatcacgg agagctggag tcaacagaaa attaaataaa 360
gatgaagctc acaatgtaat gagcaatcta tattaccctg aagtaagaaa aattgaagac 420
aaacattata ttgaactctt ctggaataaa gtatactatt tttggatatt ttttgaattt 480
tcgataattg cattaatttc cttcctaata atcttttttt gcaaacaaat ggatattttt 540
catgttgaag gttctttgct gtctttatct ttttttgtaa ttttatcatt ctcagtgagt 600
ggtattatct ttgctttgac agttaagccc agaactgaaa gtcaagtcgg aaaaatcccg 660
gacgataaaa taaaagaatt tttcactaaa aataacatta attga 705

<210> 191
<211> 285
<212> DNA
<213> E. Coli

<400> 191
atgtttacta tcaacgcaga agtacgtaaa gagcagggta aggggtgcgag ccgccgcctg 60
cgtgccgcta acaagttccc ggcaatcatc tacgggtggca aagaagcgcc gctggctatc 120
gagctggatc acgacaaagt catgaacatg caagctaaag ctgaattcta cagcgaagtt 180
ctgaccatcg ttgttgacgg taaagaaatc aaagttaaag ctcaggacgt acagcgtcac 240
ccgtacaaac cgaagctgca gcacatcgac ttcggttcgag cttaa 285

<210> 192
<211> 1977
<212> DNA
<213> E. Coli

<400> 192
atggtattgt tttatcgggc aactggcgc gactataaaa acgatcaagt gaggatcatg 60
atgaatctga cgactctgac ccaccgcgat gcgttgtgtc tgaatgcgcg ctttaccagc 120
cgtgaagagg ccatccacgc gttgactcaa cgtcttgctg ctctggggaa aatttccagt 180
actgagcaat ttctggaaga agtgatcgc cgtgaaagcc ttggcccgac cgccttaggt 240
gaaggggttg ctgtgccgca tggcaaaact gctgcggtaa aagaagcggc gtttgcggtc 300

gccacactca	gcgagccgct	tcagtgggaa	ggcgttgatg	gcccggaagc	agttgattta	360
gtggtgctgc	tggcgattcc	ccccaatgaa	gcgggtacta	cgcatatgca	actgctgaca	420
gcgctgacca	cgcgcccttc	ggatgatgag	attcgggcgc	gtatacagtc	ggcgacgacg	480
cctgatgagt	tgctctcggc	gctggatgac	aagggaggca	cgcaaccttc	tgctcttttt	540
tccaacgcgc	caactatcgt	ctgcgtaacg	gcctgtccgg	cggttattgc	tcacacctat	600
atggctgcgg	aatatctgga	aaaagccgga	cgcaaactcg	gcgtaaatgt	ttacgttgaa	660
aaacaaggcg	ctaacggcat	tgaagggcgt	ttaacggcgg	atcaactcaa	tagtgcaacc	720
gcctgtatgt	ttgcggctga	agtcgccatc	aaggagagtg	agcgttttaa	tggcattccc	780
gcgctttcag	tgcctgttgc	cgagccgatt	cgccatgcag	aagcgttgat	ccaacaagcg	840
cttaccctca	agcgtagcga	tgagacgcgt	accgtacagc	aagatcacga	accggtgaaa	900
agtgtcaaaa	cggagctgaa	acaggcactg	ttgagcggaa	tctcttttgc	cgtaccgttg	960
attgtcgcgg	ggggcacggt	gctggcggtc	gcggtattac	tgctcgaaat	cttcgggcta	1020
caagatctgt	ttaatgaaga	aaactcctgg	ctgtggatgt	accgcaagct	ggcgggcggg	1080
ctgctcggaa	ttttgatggt	accggtgctc	gcggcctata	ccgcctattc	tctggcagat	1140
aaaccggcgt	tagcgccagg	ctttgcggct	ggacttgccg	ccaacatgat	cggctccggg	1200
tttctcggcg	cggtcgttgg	cggattgata	gccggttact	tgatgcgctg	ggtgaaaaat	1260
cacttgcgtc	ttagcagtaa	attcaatgga	ttcctgactt	tttatctcta	cccggtgctc	1320
ggtacgttgg	gagcgggag	tctgatgctg	tttgtgttgg	gggaacctgt	cgctcgatc	1380
aataactcgc	ttaccgcctg	gctgaacggg	ctgtcaggaa	gtaacgcgct	gttgctgggt	1440
gccattctcg	gttttatgtg	ttcctttgac	cttgaggggc	cagtgaataa	agccgcttat	1500
gcattctgcc	tgggcgcaat	ggcgaacggc	gtttacggcc	cgtatgccat	tttcgcctcc	1560
gtcaaaatgg	tttcggcatt	taccgtaacc	gcttcacga	tgctcgacc	gcgcctgttt	1620
aaagagtttg	aaattgagac	cgggaaatcc	acctggctgt	tagggctggc	aggtattacc	1680
gaaggggcga	tcccgatggc	gattgaagat	ccgctgcggg	ttattgggtc	gtttgtgctg	1740
ggctctatgg	taacgggcgc	tattgtcggg	gcgatgaata	tcggcctttc	gacaccgggt	1800
gccggcattt	tctcgctcct	tttacttcat	gataatggcg	cgggcgggtg	tatggcggca	1860
attggctggg	ttggcgcggc	attgggtggg	gctgcaatct	cgactgcaat	tctcctgatg	1920
tggcggcgctc	acgcggttaa	gcatggcaac	tatctgactg	atggcgtaat	gccataa	1977

<210> 193

<211> 2634

<212> DNA

<213> E. Coli

<400> 193

atgaaagcag	tatctcgcgt	tcacatcacc	ccgcatatgc	actgggatcg	agagtgggtat	60
ttcaccaccg	aagagtcacg	tattctgctg	gtcaataata	tggaaagagat	cctgtgccga	120
ctggaacagg	acaacgaata	caaataattac	gtactcgacg	ggcaaacggc	gatcctcgaa	180
gattatttctg	cggtgaaacc	ggaaaacaaa	gaccgtgtga	agaaacaggt	agaagccggc	240
aagttgatta	tcggccccctg	gtatacccag	accgatacca	cgattgtttc	tgcggaatcc	300
atcgctccgta	atctgatgta	cggaatgcgt	gactgcctcg	cgtttggcga	gccgatgaaa	360
ataggttatt	taccagattc	ctttggcatg	tcggggcaac	tgccgcataat	ctacaatgga	420
tttggcatta	cccgcaccat	gttctggcgc	ggatgttcgg	agcggcacgg	tactgataaa	480
accgagtttt	tgtggcaaaag	cagtgcgggt	agcgaagtga	cggcgaggt	gctgcccgtg	540
ggctacgccca	tcggtaagta	cttacctgcc	gacgaaaacg	gattacgtaa	acgcctcgac	600
agttatttttg	acgtgctgga	aaaagcgtct	gtaaccaaag	agattttgct	gccgaatggg	660
catgaccaga	tgccattgca	gcaaaatata	ttcgaagtga	tggataagct	acgtgagatc	720
taccctcaac	gtaagtttgt	gatgagccgc	tttgaagagg	tatttgagaa	gatcgaagcg	780
cagcgagata	atctggcaac	cctgaaaggg	gaattttattg	atggcaaata	tatgcgcgtg	840
catcgacca	tcggttctac	gcgtatggat	atcaaaattg	cccacgcgcg	tattgaaaat	900
aagattgtta	atctgctgga	accgctggca	acactggcct	ggacgttggg	ttttgaatac	960
caccacggct	tgctggagaa	aatgtggaaa	gagatcttaa	aaaatcatgc	ccacgacagt	1020
atcggtgct	gctgtagtga	caaagtcat	cgcgaaatcg	tcgcccgtt	cgaactggct	1080
gaagacatgg	cggataatct	gattcgtttc	tacatgcgca	aaattgccga	caacatgccg	1140
cagagcgacg	ccgacaaact	cgtcctgttt	aacctgatgc	cctggccgcg	tgaagaagtt	1200
atcaacacca	ctgtgcggct	gcgcgccagc	cagtttaatt	tcggggacga	tcgcggtcag	1260
cctgtaccgt	attttattcg	ccatgcccgct	gagatcgatc	caggcctaata	cgatcggcaa	1320

atagttcatt	acggtaatta	cgatcccttt	atggagtttg	atatacagat	caaccagatt	1380
gtcccttcta	tgggctatcg	cacgctttat	atcgaagcga	atcagcctgg	caacgtaatt	1440
gcggaaaaa	gtgacgctga	agggatactg	gaaaatgctt	tctggcaaatt	tgcgctcaat	1500
gaggatgggt	ctctgcaact	ggtagataaa	gacagcgggtg	tgcgctatga	ccgggtattg	1560
caaattgaag	aaagctctga	tgatggtgat	gaatatgact	attcaccgcg	aaaagaagag	1620
tgggtaatta	ccgcagcgaa	cgcgaaaccg	caatgcgata	ttattcatga	agcctggcag	1680
agcagggtcg	ttatccgcta	tgacatggca	gtgccgctca	atttgtcaga	acgcagcgcc	1740
cggcaatcca	ctggcagagt	aggggtggtg	ttggttgtca	ctcttagtca	taacagcagg	1800
cgtattgatg	tggatatcaa	tcttgataac	caggctgacg	atcatcgcc	tcgtgtcctg	1860
gtccctacac	cttttaacac	cgacagtgtt	ctggcagata	cgagtttgg	ttcgctaacg	1920
cgcctcgatga	acgacagtgc	aatgaacaac	tggcagcaag	aaggctggaa	agaagcgccg	1980
gttcgggtat	ggaatatgct	caactatggt	gccttacagg	aaggcgtaaa	cggcatggct	2040
gtcttttagcg	aagggttacg	tgaatttgaa	gtcatcgggtg	aagagaagaa	aacctttgcc	2100
attacgttgc	tgcggtggcgt	gggcttactg	ggcaaagaag	atctgctttt	aaggcctggg	2160
cggccttcgg	gaattaaaat	gccagtcccg	gactcacaac	tacgtggtct	gctttcttgt	2220
cgcctaagtt	tattgagtta	taccggtacg	ccaaccgccg	ctggtgtagc	tcagcaggcg	2280
cgagcatggc	tgactccagt	acagtgttac	aacaaaatcc	catgggatgt	gatgaagctc	2340
aacaaagccg	gattcaacgt	gccggaaagt	tatagtttgt	tgaaaatgcc	cccagtggga	2400
tgcctgataa	gcgcacttaa	gaaagctgaa	gaccgacaag	aagtgatatt	acggctgttt	2460
aatccggctg	aatcagcaac	ctgtgatgcg	actgttgctt	tcagtcgcga	ggtgatattc	2520
tgctcagaaa	cgatgatgga	tgaacacatt	accaccgagg	aaaatcaagg	ttcaaattcta	2580
tcggggcctt	ttttaccg	ccagtcacgg	acgttcagtt	accggcttgc	ctga	2634

<210> 194

<211> 1572

<212> DNA

<213> E. Coli

<400> 194

atgatgttag	atatagtcga	actgtcgcgc	ttacagtttg	ccttgaccgc	gatgtaccac	60
ttcctttttg	tgccactgac	gctcggtagt	gcgttcctgc	tggccattat	ggaaacggtc	120
tacgtcctct	ccggcaaaca	gatttataaa	gatatgacca	agttctgggg	caagttgttt	180
ggtatcaact	tcgctctggg	tgtggctacc	ggtctgacca	tggagtcca	gttcgggact	240
aactgggtctt	actattccca	ctatgtaggg	gatatcttcg	gtgcgccgct	ggcaatcgaa	300
ggtctgatgg	ccttcttcct	cgaatccacc	tttgtaggtc	tggtcttctt	cggttgggat	360
cgtctgggta	aagttcagca	tatgtgtgtc	acctggctgg	tggcgctcgg	ttcaaacctg	420
tccgcaactgt	ggattctggt	tgcgaaacggc	tggatgcaaa	acccaatcgc	gtccgatttc	480
aactttgaaa	ctatgcgtat	ggagatgggtg	agcttctccg	agctggtgct	taacccggtt	540
gctcaggtga	aattcggtta	caactgtagcg	tctgggttatg	tgactggcgc	gatgttcac	600
ctcggtatca	gcgcaggtga	tatgctgaaa	ggtcgtgact	tcgccttcgc	taaacgctcc	660
tttgctatcg	ctgccagctt	cggtaggct	gctgttctgt	ctgttattgt	tctgggtgat	720
gaatccggct	acgaaatggg	cgacgtgcag	aaaaccaaac	tggctgctat	tgaagccgag	780
tgggaaacgc	aacctgcgc	tgctgccttt	actctgttcg	gcattcctga	tcaggaagag	840
gagacgaaca	aatttgcgat	tcagatccct	tacgcaactgg	gcatcattgc	aacgcgttcc	900
gtggataccc	cggttatcgg	cctgaaagag	ctgatggtgc	agcatgaaga	acgcattcgt	960
aacgggatga	aggcgtaact	tctgctcgaa	caactgcgtt	ctggttctac	cgaccaggcg	1020
gttcgtgacc	agttcaatag	catgaagaaa	gacctcggtt	acggtctgct	gctgaaacgc	1080
tatacgccaa	acgtggctga	tgcgactgaa	gcgcagattc	aacaggcaac	caaagactcc	1140
atcccgctg	tagcgccgct	gtactttgcg	ttccgtatca	tgggtggcgtg	tggcttctctg	1200
cttctggcaa	tcacgcgcgt	ctctttctgg	agtgtcatcc	gcaaccgcat	tggcgagaaa	1260
aaatggcttc	tgcgcgccgc	gctgtacggt	attccgctgc	cgtggattgc	tgtagaagcg	1320
ggctggttcg	tggctgaata	tggccgcaa	ccgtgggcta	tcggtgaagt	gctgccgaca	1380
gctgtggcga	actcgtcact	gaccgcaggc	gatctcatct	tctcaatggg	gctgatattgc	1440
ggcctgtata	ccctgttcct	ggtggcagaa	ttgttcttaa	tgttcaagtt	tgacgcctc	1500
ggcccaagca	gcctgaaaac	cggtcgctat	cactttgagc	agtcttccac	gactactcag	1560
ccggcacgct	aa					1572

<210> 195
 <211> 1140
 <212> DNA
 <213> E. Coli

<400> 195

atgatcgatt	atgaagtatt	gcgtttttatc	tgggtggctgc	tggttggcgt	tctgctgatt	60
ggttttgcag	tcactgacgg	tttcgacatg	gggggtgggca	tgctcaccgg	tttcctcggg	120
cgtaacgaca	ccgagcgtcg	aattatgatt	aactccattg	caccacactg	ggacggtaac	180
caggtttggc	tgatcaccgc	gggcggcgca	ctctttgctg	cctggccgat	ggctctatgcc	240
gctgcgttct	ccggctttcta	tgtggcgatg	atcctcgtgc	tggcgtcttt	gttcttccgt	300
ccggctcgggt	ttgactaccg	ctccaagatt	gaagaaaccc	gctggcgtaa	catgtgggac	360
tggggcatct	tcattggtag	cttcgttccg	ccgctggtaa	ttggtgtagc	gttcggtaac	420
ctggttcagg	gcgtaccggt	caacgttgat	gaatatctgc	gtctgtacta	caccggtaac	480
ttcttccagt	tgcttaaccc	gttcggcctg	ctggcaggcg	tgggtgagcg	agggatgac	540
attactcagg	gcgcaaccta	tctgcaaatg	cgtaccgtgg	gcgaactgca	cctgcgtacc	600
cgtgcaacgg	ctcaggtggc	tgcgctgggt	acactggctc	gtttcgcact	ggctggcgta	660
tgggtgatgt	acggtatcga	tggttatgtc	gtgaaatcga	caatggacca	ttacgcagcc	720
tctaaccac	tgaataaaga	agtggttcgt	gaagctggcg	catggctggg	taacttcaac	780
aacacgccaa	ttctgtgggc	tattccggca	ctgggtgtgg	ttctgccgct	gctgaccatc	840
ctgactgcac	gtatggataa	agccgcgtgg	gcgtttgtgt	tctcctccct	gacgctggcc	900
tgcacatcc	tgacagccgg	tatcgcaatg	ttcccgtttg	tgatgccgtc	cagcaccatg	960
atgaacgcaa	gtctgacaat	gtgggatgca	acttccagcc	agctgacgct	taacgtcatg	1020
acctgggttg	cggtggttct	ggtaccgatc	attctgctct	acaccgcctg	gtgttactgg	1080
aaaatgttcg	gtcgtatcac	caaagaagat	attgaacgta	acaccactc	tctgtactaa	1140

<210> 196
 <211> 1371
 <212> DNA
 <213> E. Coli

<400> 196

atggaattat	cctcactgac	cgccgtttcc	cctgtcgatg	gacgctacgg	cgataaagtc	60
agcgcgctgc	gcgggatttt	cagcgaatat	ggtttgctga	aattccgtgt	acaagttgaa	120
gtacgttggc	tgcaaaaact	ggccgcgcac	gcagcgatca	aggaagttcc	tgcttttgc	180
gccgacgcaa	tcggttacct	tgatgcaatc	gtcgccagtt	tcagcgaaga	agatgcggcg	240
cgcatacaaaa	ctatcgagcg	taccactaac	cacgacgtta	aagcggttga	gtatttcctg	300
aaagaaaaaag	tggcggagat	cccggaaactg	cacgcggttt	ctgaattcat	ccactttgcc	360
tgtacttcgg	aagatatcaa	taacctctcc	cacgcattaa	tgctgaaaac	cgcgcgatg	420
gaagtgatcc	tgccatactg	gcgtcaactg	attgatggca	ttaaagatct	cgccgttcag	480
tatcgcgata	tcccgcgtgct	gtctcgtacc	cacggtcagc	cagccacgcc	gtcaaccatc	540
ggtaaagaga	tggcaaacgt	cgcctaccgt	atggagcgcc	agtaccgcca	gcttaaccag	600
gtggagatcc	tcggcaaaat	caacggcgcg	gtcggtaact	ataacgcca	catcgccgct	660
taccgcggaag	ttgactggca	tcagttcagc	gaagagttcg	tcacctcgct	gggtattcag	720
tggaaccctgt	acaccaccca	gatcgaaccg	cacgactaca	ttgccgaact	gtttgattgc	780
gttgccgcgct	tcaaacactat	tctgatcgac	tttgaccgtg	acgtctgggg	ttatatcgcc	840
cttaaccact	tcaaacagaa	aaccattgct	ggtgagattg	gttcttccac	catgccgcat	900
aaagttaacc	cgatcgactt	cgaaaactcc	gaagggaatc	tgggcctttc	caacgcggtg	960
ttgcagcatc	tggcaagcaa	actgccgggt	tcccgcgtgg	agcgtgacct	gaccgactct	1020
accgtgctgc	gtaacctcgg	cgtgggtatc	ggttatgcct	tgattgcata	tcaatccacc	1080
ctgaaaggcg	tgagcaaaact	ggaagtgaac	cgtgaccatc	tgctggatga	actggatcac	1140
aactgggaag	tgctggctga	accaatccag	acagttatgc	gtcgctatgg	catcgaaaaa	1200
ccgtacgaga	agctgaaaga	gctgactcgc	ggtaagcgcg	ttgacgccga	aggcatgaag	1260
cagtttatcg	atggtctggc	gttgccagaa	gaagagaaag	cccgcctgaa	agcgatgacg	1320
ccggctaact	atattggctg	agctatcacg	atggttgatg	agctgaaata	a	1371

<210> 197

<211> 186
 <212> DNA
 <213> E. Coli

<400> 197
 atgctgattc tgactcgctg agttggtgag accctcatga ttggggatga ggtcaccgtg 60
 acagtttttag gggtaaaggg caaccaggta cgtattggcg taaatgcccc gaaggaagtt 120
 tctgttcacc gtgaagagat ctaccagcgt atccaggctg aaaaatccca gcagtccagt 180
 tactaa 186

<210> 198
 <211> 93
 <212> DNA
 <213> E. Coli

<400> 198
 ggtgaggtgg ccgagaggct gaaggcgctc ccctgctaag ggagtatgcg gtcaaaagct 60
 gcatccgggg ttcgaatccc cgcctcaccg cca 93

<210> 199
 <211> 603
 <212> DNA
 <213> E. Coli

<400> 199
 atgaagaata aggctgataa caaaaaaagg aacttcctga cccatagtgga aatcgaatca 60
 ctccttaaag cagcaaatac cgggcctcat gcagcacgta attattgtct gactttgctt 120
 tgttttattc atggtttccg ggcgagtga atttgtcgat tgaggatttc ggatattgat 180
 ctaaggcaa agtgtatata tatccatcga ttaaaaaaagg gcttttcaac aacgcacccg 240
 ctattgaata aagaagttca ggctttaaaa aactggttga gtatccgtac ttcgtacccg 300
 catgctgaga gcgagtgggt atttttatca cgtaagggga atccgctttc tcggcaacag 360
 ttttaccata ttatctcgac ttccggtggt aatgccgggt tgtcactgga gattcatccg 420
 cacatgttac gccattcgtg tggttttgct ttggcgaata tgggaataga tacgcgactt 480
 atccaggatt atcttgggca tcgcaatatt cgtcactactg tctggtatac cgccagcaat 540
 gcagggcggt tttacggcat ctgggataga gccagaggac gacagcgtca cgctgtttta 600
 tag 603

<210> 200
 <211> 597
 <212> DNA
 <213> E. Coli

<400> 200
 gtgagtaaac gtcgttatct taccggtaaa gaagttcagg ccatgatgca ggcggtttgt 60
 tacggggcaa cgggagccag agattattgt cttattctgt tggcatatcg gcatgggatg 120
 cgtattagtg aactgcttga tctgcattat caggaccttg accttaatga aggtagaata 180
 aatattcgcc gactgaagaa cggattttct accgttcacc cgttacgttt tgatgagcgt 240
 gaagccgtgg aacgctggac ccaggaacgt gctaactgga aaggcgctga ccggactgac 300
 gctatattta tttctcgccg cgggagtcgg ctttctcgcc agcaggccta tcgcattatt 360
 cgcgatgccg gtattgaagc tggaaaccgt acgcagactc atcctcatat gttaaggcat 420
 gcttgcggtt atgaattggc ggagcgtggg gcagatactc gtttaattca ggattatctc 480
 gggcatcgaa atattcgcca tactgtgcgt tataccgcca gtaatgctgc tcgttttgcc 540
 ggattatggg aaagaaataa tctcataaac gaaaaattaa aaagagaaga ggtttga 597

<210> 201
 <211> 549
 <212> DNA

<213> E. Coli

<400> 201

atgaaaatta	aaactctggc	aatcgttggt	ctgtcggctc	tgtccctcag	ttctacagcg	60
gctctggccg	ctgccacgac	ggttaatggt	gggaccggtc	actttaagg	ggaagttggt	120
aacgccgctt	gcgcagttga	tgcaggctct	gttgatcaaa	ccgttcagtt	aggacaggtt	180
cgtaccgcat	cgctggcaca	ggaaggagca	accagttctg	ctgtcggttt	taacattcag	240
ctgaatgatt	gcatatccaa	tgttgcatct	aaagccgctg	ttgccttttt	aggtacggcg	300
attgatgcgg	gtcatatccaa	cgttctggct	ctgcagagtt	cagctgcggg	tagcgcaaca	360
aacgttggtg	tgcagatcct	ggacagaacg	ggtgctgcgc	tgacgctgga	tgggtgcgaca	420
tttagttcag	aaacaacctt	gaataacgga	accaatacca	ttccgttcca	ggcgcgttat	480
tttgcaaccg	gggccgcaac	cccgggtgct	gctaatacgcg	atgcgacctt	caaggttcag	540
tatcaataa						549

<210> 202

<211> 648

<212> DNA

<213> E. Coli

<400> 202

gtgctgctaa	tgcggatgcg	accttcaagg	ttcagtatca	ataacctacc	caggttcagg	60
gacgtcatta	cgggcaggga	tgcccaccct	tgtgcgataa	aaataacgat	gaaaaggaag	120
agattatttc	tattagcgtc	gttgctgcca	atgtttgctc	tggccgga	taaatggaat	180
accacgttgc	ccggcgga	tatgcaattt	cagggcgctc	ttattgcgga	aacttgccgg	240
attgaagccg	gtgataaaca	aatgacggtc	aatatggggc	aaatcagcag	taaccggttt	300
catgcggttg	gggaagatag	cgacccgggtg	ccttttggtt	ttcatttacg	ggaatgtagc	360
acgggtggtg	gtgaacgtgt	aggtgtggcg	tttcacgggtg	tcgcggatgg	taaaaatccg	420
gatgtgcttt	ccgtgggaga	ggggccaggg	atagcaca	atattggcgt	agcgttggtt	480
gatgatgaag	gaaacctcgt	accgattaat	cgctctccag	caaactggaa	acggccttat	540
tcaggtctta	cttcgctaca	tttcatcgcc	aaatatcggtg	ctaccggggc	tcgggttact	600
ggcggcatcg	ccaatgcccc	ggcctggttc	tctttaacct	atcagtaa		648

<210> 203

<211> 726

<212> DNA

<213> E. Coli

<400> 203

gtgagtaata	aaaacgtcaa	tgtaaggaaa	tcgcaggaaa	taacattctg	cttgctggca	60
ggtatcctga	tgttcatggc	aatgatgggt	gccggacgcg	ctgaagcggg	agtggcctta	120
ggtgcgactc	gcgtaattta	tccggcaggg	caaaaacaag	agcaacttgc	cgtgacaaat	180
aatgatgaaa	atagtaccta	tttaattcaa	tcatgggtgg	aaaatgccga	tgggtgtaaag	240
gatggctggt	ttatcgtgac	gcctcctctg	tttgcatga	aggga	agagaatacc	300
ttacgtattc	ttgatgcaac	aaataaccaa	ttgccacagg	accgggaaag	tttattctgg	360
atgaacgtta	aagcgattcc	gtcaatggat	aaatcaaaat	tgactgagaa	tacgctacag	420
ctcgcaatta	tcagccgcat	taaactgtac	tatcgcccgg	ctaaattagc	gttgccaccc	480
gatcaggccg	cagaaaaatt	aagatttcgt	cgtagcgcga	attctctgac	gctgattaac	540
ccgacaccct	attacctgac	ggtaacagag	ttgaatgccg	gaacccgggt	tcttgaaaat	600
gcattgggtg	ctccaatggg	cgaaagcacg	gttaaaattgc	cttctgatgc	aggaagcaat	660
attacttacc	gaacaataaa	tgattatggc	gcacttacct	ccaaaatgac	gggcgtaatg	720
gaataa						726

<210> 204

<211> 2637

<212> DNA

<213> E. Coli

<400> 204

atgtcatatc	tgaattttaag	actttaccag	cgaaacacac	aatgcttgca	tattcgtaag	60
catcgtttgg	ctggtttttt	tgtccgactc	gttgctgcct	gtgcttttgc	cgcacaggca	120
cctttgtcat	ctgccgacct	ctattttaat	ccgcgctttt	tagcggatga	tccccaggct	180
gtggccgatt	tatcgcgttt	tgaaaatggg	caagaattac	cgccagggac	gtatcgcgtc	240
gatatctatt	tgaataatgg	ttatatggca	acgcgtgatg	tcacatttaa	tacgggagac	300
agtgaacaag	ggattgttcc	ctgcctgaca	cgcgcgcaac	tcgccagtat	ggggctgaat	360
acggcttctg	tcgccggtat	gaatctgctg	gcggatgatg	cctgtgtgcc	attaaccaca	420
atgggccagg	acgctactgc	gcactctggat	gttggtcagc	agcgactgaa	cctgacgata	480
cctcaggcat	ttatgagtaa	tcgcgcgcgt	ggttatattc	ctcctgagtt	atgggatccc	540
ggtattaatg	ccggaattgct	caattataat	ttcagcggaa	atagtgtaca	gaatcggatt	600
gggggtaaca	gccattatgc	atattttaaac	ctacagagtg	ggttaaatat	tgggtgcgtg	660
cgtttacgcg	acaataccac	ctggagttat	aacagtagcg	acagatcatc	aggtagcaaa	720
aataaatggc	agcatatcaa	tacctggctt	gagcgagaca	taataccggt	acgttcccgg	780
ctgacgctgg	gtgatggtta	tactcagggc	gatattttcg	atggtattaa	ctttcgcggc	840
gcacaattgg	cctcagatga	caatatgtta	cccgatagtc	aaagaggatt	tgccccgggtg	900
atccacggta	ttgctcgtgg	tactgcacag	gtcactatta	aacaaaatgg	gtatgacatt	960
tataatagta	cggtgccacc	ggggcctttt	accatcaacg	atatctatgc	cgcaggtaat	1020
agtggtgact	tgcaggtaac	gatcaaagag	gctgacggca	gcacgcagat	ttttaccgta	1080
ccctattcgt	cagtcccgc	tttgcaacgt	gaagggcata	ctcgttattc	cattacggca	1140
ggagaatacc	gtagtggaag	tgcgcagcag	gaaaaaaccc	gctttttcca	gagtacatta	1200
ctccacggcc	ttccggctgg	ctggacaata	tatggtggaa	cgcaactggc	ggatcgttat	1260
cgtgctttta	atttcggtat	cgggaaaaac	atgggggac	tgggcgctct	gtctgtggat	1320
atgacgcagg	ctaattccac	acttcccgat	gacagtcagc	atgacggaca	atcgggtcgt	1380
tttctctata	acaaatcgct	caatgaatca	ggcacgaata	ttcagttagt	gggttaccgt	1440
tattcgacca	cggatatttt	taatttcgct	gatacaacat	acagtcgaat	gaatggctac	1500
aacattgaaa	cacaggacgg	agttattcag	gttaagccga	aattcaccga	ctattacaac	1560
ctcgcttata	acaaacgcgg	gaaattacaa	ctcaccgtta	ctcagcaact	cgggcgcaca	1620
tcaacactgt	atttgagtgg	tagccatcaa	acttattggg	gaacgagtaa	tgtcgatgag	1680
caattccagg	ctggattaaa	tactgcgttc	gaagatatca	actggacgct	cagctatagc	1740
ctgacgaaaa	acgcctggca	aaaaggacgg	gatcagatgt	tagcgcttaa	cgtcaatatt	1800
cctttcagcc	actggctgcg	ttctgacagt	aaatctcagt	ggcgacatgc	cagtgccagc	1860
tacagcatgt	cacacgatct	caacggctcg	atgaccaatc	tggctggtgt	atacggtagc	1920
ttgctggaag	acaacaacct	cagctatagc	gtgcaaaccg	gctatgccgg	gggaggcgat	1980
ggaaatagcg	gaagtacagg	ctacgccacg	ctgaattatc	gcggtggtta	cggcaatgcc	2040
aatatcgggt	acagccatag	cgatgatatt	aagcagctct	attacggagt	cagcgggtgg	2100
gtactggctc	atgccaatgg	cgtaacgctg	gggcagccgt	taaacgatac	ggtggtgctt	2160
gttaaagcgc	ctggcgcaaa	agatgcaaaa	gtcgaaaacc	agacgggggt	gcgtaccgac	2220
tggcggtggt	atgccgtgct	gccttatgcc	actgaatatc	gggaaaatag	agtggcgctg	2280
gataccaata	ccctggctga	taacgtcgat	ttagataacg	cggttgctaa	cgttggtccc	2340
actcgtgggg	cgatcgtgcg	agcagagttt	aaagcgcgcg	ttgggataaa	actgctcatg	2400
acgctgaccc	acaataataa	gccgctgccg	tttggggcga	tggtgacatc	agagagtagc	2460
cagagtagcg	gcattgtttg	ggataatggt	caggtttacc	tcagcggaat	gccttttagcg	2520
ggaaaagttc	aggtgaaatg	gggagaagag	gaaaatgctc	actgtgtcgc	caattatcaa	2580
ctgccaccag	agagtcagca	gcagttatta	acccagctat	cagctgaatg	tcgttaa	2637

<210> 205

<211> 531

<212> DNA

<213> E. Coli

<400> 205

atgagaaaca	aaccttttta	tcttctgtgc	gcttttttgt	ggctggcggt	gagtcacgct	60
ttggctgcgg	atagcacgat	tactatccgc	ggctatgtca	gggataacgg	ctgtagtgtg	120
gccgctgaat	caaccaat	tactgttgat	ctgatggaaa	acgcggcgaa	gcaatttaac	180
aacattggcg	cgacgaactc	tgttgtttcca	tttcgtat	tgctgtcacc	ctgtggtaat	240
gccgtttctg	ccgtaaaggt	tgggtttact	ggcgttgcag	atagccacaa	tgccaacctg	300

cttgcaattg	aaaatacggg	gtcagcgggt	tcgggactgg	gaatacagct	tctgaatgag	360
cagcaaaatc	aaatacccct	taatgctcca	tcgtccgcgc	tttcgtggac	gaccctgacg	420
ccgggtaaac	caaatacgtc	gaattttttac	gcccggctaa	tggcgacaca	ggtgcctgtc	480
actgcggggc	atatcaatgc	cacggctacc	ttcactcttg	aatatcagta	a	531

<210> 206

<211> 504

<212> DNA

<213> E. Coli

<400> 206

atgaaatggg	gcaaacgtgg	gtatgtattg	gcggcaatat	tggcgctcgc	aagtgcgacg	60
atacaggcag	ccgatgtcac	catcacgggt	aacggtaagg	tcgtcgccaa	accgtgtacg	120
gtttccacca	ccaatgccac	ggttgatctc	ggcgatcttt	attctttcag	tcttatgtct	180
gccggggcgg	catcggcctg	gcatgatgtt	gcgcttgagt	tgactaattg	tccggtggga	240
acgtcgaggg	tactgccag	cttcagcggg	gcagccgaca	gtaccggata	ttataaaaac	300
caggggaccg	cgcaaaacat	ccagttagag	ctacaggatg	acagtggcaa	cacattgaat	360
actggcgcaa	ccaaaacagt	tcaggtggat	gattcctcac	aatcagcgca	cttcccgtta	420
caggtcagag	cattgacagt	aaatggcgga	gccactcagg	gaaccattca	ggcagtgatt	480
agcatcacct	atacctacag	ctga				504

<210> 207

<211> 903

<212> DNA

<213> E. Coli

<400> 207

atgaaacgag	ttattaccct	gtttgctgta	ctgctgatgg	gctggtcggg	aaatgcctgg	60
tcattcgcct	gtaaaaccgc	caatggtacc	gctatcccta	ttggcggtgg	cagcgccaat	120
gtttatgtaa	accttgcgcc	cgctgtgaat	gtggggcaaa	acctggtcgt	ggatctttcg	180
acgcaaatct	tttgccataa	cgattatccg	gaaaccatta	cagactatgt	cacactgcaa	240
cgaggctcgg	cttatggcgg	cgtgttatct	aatttttccg	ggaccgtaaa	atatagtggc	300
agtagctatc	catttcctac	caccagcgaa	acgccgcgcg	ttgtttataa	ttcgagaacg	360
gataagccgt	ggccggtggc	gctttatatt	acgcctgtga	gcagtgcggg	cgggggtggcg	420
attaaagctg	gctcattaat	tgccgtgctt	attttgcgac	agaccaacaa	ctataacagc	480
gatgatattcc	agttttgtgt	gaatatattac	gccaaataat	atgtggtggt	gcctactggc	540
ggctgcgatg	tttctgctcg	tgatgtcacc	gttactctgc	cggactaccc	tggttcagtg	600
ccaattcctc	ttaccgttta	ttgtgcgaaa	agccaaaacc	tgggggtatta	cctctccggc	660
acaaccgcag	atgcgggcaa	ctcgattttc	accaataaccg	cgtcgttttc	acctgcacag	720
ggcgctcggc	tacagttgac	gcgcaacggg	acgattattc	cagcgaataa	cacggtatcg	780
ttaggagcag	tagggacttc	ggcggtgagt	ctgggattaa	cggcaaatata	tgcacgtacc	840
ggagggcagg	tgactgcagg	gaatgtgcaa	tcgattattg	gcgtgacttt	tgtttatcaa	900
taa						903

<210> 208

<211> 1631

<212> DNA

<213> E. Coli

<400> 208

gtgctgtcaa	aactaccccg	tagactccga	tctttttcaaa	catattgcac	catccgtgta	60
catcgggggtg	aggatatgaa	atcaatggat	aagttaacaa	caggtggttg	ctatggcaca	120
tcggcggggtg	atgctgggtt	ctgggcattg	cagttactcg	ataaagtaac	tccgtcacag	180
tgggctgcaa	tcggtgtgct	gggtagcctg	gttttttgcc	tgctgacgta	tctgacaaat	240
ctttattttca	agattaaaga	agacaggcgt	aaggctgcga	gaggagagta	atccaatgac	300
tcaagactat	gaactgggtt	tgaaaggagt	ccgtaatttt	gagaataaag	ttacggtaac	360
tgtagcctta	caggacaaaag	aacgctttga	cggtgaaatt	tttgacctgg	atgtcgccat	420

ggaccgtggt	gaaggagctg	cgctggagtt	ttatgaggca	gcagccagaa	ggagcgtccg	480
gcaagtcttc	ctggaagtag	cagaaaaatt	gtcagaaaaa	gttgagtctt	atctgcagca	540
tcagtactcc	tttaagattg	aaaatcctgc	caataagcac	gagcgtcctc	atcataaata	600
tctatgaaca	caaaaatcag	atacggcctg	tcggctgccg	ttctggcgct	gattggtgct	660
ggcgcatctg	ctcctcagat	acttgaccag	tttctggacg	aaaaagaagg	taaccacaca	720
atggcatacc	gcgatggttc	tggcatatgg	accatctgtc	ggggtgccac	agtgggtgat	780
ggaaaaaccg	tttttcccaa	tatgaaactg	tcgaaggaaa	aatgcgacca	ggtcaacgcc	840
attgagcgtg	ataaggcgct	ggcatgggtg	gagcgcaata	ttaaagtacc	actgaccgaa	900
ccacaaaaag	cgggtatcgc	gtcattttgt	ccctataaca	ttggccccgg	taagtgtttc	960
ccgtcgacgt	tttataagcg	gctgaatgct	ggtgatcgta	aagggtgcatg	cgaagcgatt	1020
cgctggtgga	ttaaggatgg	cggacgcgat	tgccgcattc	gttcaaataa	ctgttacggt	1080
caggttattc	gtcgtgacca	ggagagcgca	ttaacctgct	gggggataga	acagtgaatc	1140
agatattcat	ggtgattttt	ctcgtgttgt	caggatttat	cgtcggaaat	gtctggagcg	1200
accgaggatg	gcaaaaaaaa	tgggcggaac	gtgatgctgc	cgcattatca	caagaggtaa	1260
atgctcaatt	tgctgctcga	ataattgaac	aggggcgaac	tatagcccgt	gatgaggctg	1320
ttaaagatgc	gcaacagaaa	tctgctgaaa	tttctgccag	ggctgcttat	ctgtctgata	1380
gtgttaacca	gttgctgccc	gaagcaaaaa	aatatgccat	acgccttgac	gcagcgaagc	1440
ataccgcaga	tcttgccgct	gccgtcagag	gcaaaacaac	caaaaccgcc	gaaggaatgc	1500
tcaccaacat	gctcggagat	attgcagcag	aagctcagct	ttatgctgaa	attgctgacg	1560
aacgctacat	cgcaggagtg	acttgtcaac	agatctatga	atctttaaga	gataaaaagc	1620
atcaaatgta	g					1631

<210> 209

<211> 534

<212> DNA

<213> E. Coli

<400> 209

atgaacacaa	aaatcagata	cggcctgtcg	gctgccgttc	tggcgctgat	tgggtgctggc	60
gcatctgctc	ctcagatact	tgaccagttt	ctggacgaaa	aagaaggtaa	ccacacaatg	120
gcataccgcg	atggttctgg	catatggacc	atctgtcggg	gtgccacagt	ggtggatgga	180
aaaaccgttt	ttcccaatat	gaaactgtcg	aaggaaaaat	gcgaccaggt	caacgccatt	240
gagcgtgata	aggcgctggc	atgggtggag	cgcaatatta	aagtaccact	gaccgaacca	300
caaaaagcgg	gtatcgcgct	attttgtccc	tataacattg	gccccggtaa	gtgtttcccg	360
tcgacgtttt	ataagcggtc	gaatgctggg	gatcgtaaag	gtgcatgcga	agcgattcgc	420
tgggtggatta	aggatggcgg	acgcgattgc	cgcatctcgt	caaataactg	ttacggtcag	480
gttattcgtc	gtgaccagga	gagcgcatta	acctgctggg	ggatagaaca	gtga	534

<210> 210

<211> 312

<212> DNA

<213> E. Coli

<400> 210

atgactcaag	actatgaact	ggttgtgaaa	ggagtccgta	attttgagaa	taaagttacg	60
gtaactgtag	ccttacagga	caaagaacgc	tttgacggtg	aaatttttga	cctggatgtc	120
gccatggacc	gtgttgagg	agctgcgctg	gagttttatg	aggcagcagc	cagaaggagc	180
gtccggcaag	tcttcctgga	agtagcagaa	aaattgtcag	aaaaagttga	gtcttatctg	240
cagcatcagt	actcctttta	gattgaaaat	cctgccaaata	agcacgagcg	tcctcatcat	300
aaatatctat	ga					312

<210> 211

<211> 291

<212> DNA

<213> E. Coli

<400> 211

gtgctgtcaa	aactaccccg	tagactccga	tcttttcaaa	catattgcac	catccgtgta	60
catcgggggtg	aggatatgaa	atcaatggat	aagttaacaa	caggtgttgc	ctatggcaca	120
tccggcgggta	atgctggttt	ctgggcattg	cagttactcg	ataaagtaac	tccgtcacag	180
tgggctgcaa	tcggtgtgct	gggtagcctg	gtttttggcc	tgctgacgta	tctgacaaat	240
ctttattttca	agattaaaga	agacaggcgt	aaggctgcga	gaggagagta	a	291

<210> 212

<211> 216

<212> DNA

<213> E. Coli

<400> 212

atgtcaaata	aaatgactgg	tttagtaaaa	tggtttaacg	ctgataaagg	tttcggcttt	60
atcttctcctg	ttgatggtag	taaagatgtg	tttgtgcatt	tttctgcgat	tcagaatgat	120
aattatcgaa	ctttattttga	aggtcaaaaag	gttaccttct	ctatagagag	tggtgctaaa	180
ggtcctgcag	cagcaaattg	catcattact	gattaa			216

<210> 213

<211> 1017

<212> DNA

<213> E. Coli

<400> 213

atgtttgtca	tctggagcca	tagaacaggg	ttcatcatga	gtcatcaact	taccttcgcc	60
gacagtgaat	tcagcagtaa	gcgccgtcag	accagaaaag	agattttctt	gtcccgcag	120
gagcagattc	tgccatggca	aaacatgggt	gaagtcacg	agccgtttta	ccccaaggct	180
ggtaatggcc	ggcgacctta	tccgctggaa	accatgctac	gcattcactg	catgcagcat	240
tggtacaacc	tgagcgatgg	cgcgatggaa	gatgctctgt	acgaaatcgc	ctccatgcgt	300
ctgtttgccc	ggttatccct	ggatagcgcc	ttgccggacc	gcaccaccat	catgaatttc	360
cgccacctgc	tggagcagca	tcaactggcc	cgccaattgt	tcaagaccat	caatcgctgg	420
ctggccgaag	caggcgtcat	gatgactcaa	ggcaccttgg	tcgatgccac	catcattgag	480
gcaccagct	cgaccaagaa	caaagagcag	caacgcgatc	cggagatgca	tcagaccaag	540
aaaggcaatc	agtggcactt	tggcatgaag	gcccacattg	gtgtcgatgc	caagagtggc	600
ctgaccacaca	gcctggtcac	caccgcggcc	aacgagcatg	acctcaatca	gctgggtaat	660
ctgctgcatg	gagaggagca	atttgtctca	gccgatgccg	gctaccaagg	ggcgccacag	720
cgcgaggagc	tggccgaggt	ggatgtggac	tggctgatcg	ccgagcgccc	cggcaaggta	780
agaaccttga	aacagcatcc	acgcaagaac	aaaacggcca	tcaacatcga	atacatgaaa	840
gccagcatcc	gggccagggt	ggagcaccca	tttcgcatca	tcaagcgaca	gttcggcttc	900
gtgaaagcca	gatacaaggg	gttgctgaaa	aacgataaacc	aactggcgat	gttattcacg	960
ctggccaacc	tgtttcgggc	ggaccaaatg	atacgtcagt	gggagagatc	tcactaa	1017

<210> 214

<211> 474

<212> DNA

<213> E. Coli

<400> 214

atggtatata	taataatcgt	ttcccacgga	catgaagact	acatcaaaaa	attactcgaa	60
aatcttaatg	ctgacgatga	gcactacaag	attatcgtac	gcgacaacaa	agactctcta	120
ttattgaaac	aaatatgccca	gcattatgca	ggcctggact	atattagtg	aggtgtatac	180
ggctttgggtc	ataataataa	tattgcggtg	gcgtatgtaa	aggaaaaata	tagaccgca	240
gatgatgatt	acattttgtt	tttgaatccc	gatatcatca	tgaagcatga	tgatttgctg	300
acatatatta	aatatgtcga	aagtaagcgt	tatgctttta	gtacattatg	cctgttccga	360
gatgaagcga	aatctttaca	tgattattcc	gtaagaaaat	ttcctgtgct	ttctgatttt	420
attgtgtcat	ttatgttagg	gattaaggaa	ggtgcgaaca	agtcctgat	atga	474

<210> 215

<211> 1119
 <212> DNA
 <213> E. Coli

<400> 215

atgggaaaaa	gcatagtcgt	tgtttctgcg	gtcaatttta	ccactggcgg	tccatttacc	60
attttgaaaa	aatttttggc	agcaactaat	aataaagaaa	atgtcagttt	tatcgcat	120
gtccattctg	ctaaagagtt	aaaagaaagt	tatccatggg	ttaaattcat	tgagtttcct	180
gaggttaaag	ggcgtggct	aaaacgtttg	cactttgaat	atgtagtttg	taaaaaactt	240
tcaaaagagc	tgaatgctac	gcattggatt	tgtctgcatg	atattacggc	caatgtcgtc	300
actaaaaaaa	gatagtgtga	ttgtcataac	cctgcacctt	tttataaagg	aattttattc	360
cgtgaaattc	ttatggagcc	tagctttttc	ttatttataa	tgctatacgg	gctgatatat	420
aaaataaaca	ttaaaaaaa	tactgcagtg	tttgttcaac	aattctggat	gaaagaaaaa	480
tttatcaaga	aatattctat	aaataacatc	attgtcagtc	ggccagaaat	taaattatct	540
gataaaagcc	aacttactga	tgatgattct	caatttaaga	ataacccttc	tgagttgaca	600
atattttacc	ctgctgttcc	acgagtattt	aaaaattacg	agcttattat	tagtgcagca	660
aggaaattga	aagaacaatc	caatattaaa	tttctgctta	ctatcagtg	tacagaaaat	720
gcgtatgcaa	aatatattat	cagtcttgca	gaaggactgg	ataatgttca	tttcctcggg	780
tacttgata	aagaaaaaat	cgatcattgt	tataatattt	cagatatagt	ttgttttccc	840
tctaggttag	aaacatgggg	attgccgttg	tctgaagcta	aagagcgagg	taagtgggta	900
ttagcatcag	atttcccatt	tactagagaa	actcttggtg	gttatgaaaa	gaaagctttt	960
tttgattcta	ataacgatga	catgttagtt	aaacttatta	ttgacttcaa	aaaaggtaac	1020
ctcaaaaaag	atatctctga	tgcaaatctc	atttatcgta	atgaaaatgt	attagttggg	1080
tttgatgaac	tagttaattt	tattactgaa	gaacattga			1119

<210> 216
 <211> 591
 <212> DNA
 <213> E. Coli

<400> 216

atgatcttaa	aactcgctaa	acgatatggt	ctctgtgggt	ttattcggct	tgtagagat	60
gtcttattga	ctcgtgtatt	ttaccggaac	tgtagaatta	ttcgatttcc	ctgctatatt	120
cgcaatgatg	gtagcattaa	ttttggtgaa	aatttcacaa	gtggagtcgg	tctcaggctg	180
gatgcatttg	gacgtggcgt	gatttttttt	tccgataatg	tgcaagttaa	cgactatgtt	240
catatcgctt	caattgagag	cgttacgata	ggcggggata	cgcttattgc	aagtaaagta	300
tttattaccg	atcataatca	cggttccttt	aagcactctg	atccaatgag	ttcgccaaat	360
atacctccag	acatgcgcac	gttggaatct	tcagctgttg	taattggcca	gaggggttgg	420
ttgggtgaga	atgtgacggt	tttgccctgga	acaattattg	gtaatggagt	cgtagtcggc	480
gccaatcttg	ttgttagagg	ttctattccc	gaaaatactg	tcattgcggg	agtaccagca	540
aaaatcataa	agaaatacaa	tcatgagacc	aaattatggg	aaaaagcata	g	591

<210> 217
 <211> 993
 <212> DNA
 <213> E. Coli

<400> 217

atgtattttt	tgaatgat	aaatttctct	agacgcgatg	ctggatttaa	agcaagaaaa	60
gatgcactgg	acattgcttc	agattatgaa	aacatttctg	ttgttaacat	tcctctatgg	120
ggtggagtag	tccagagaat	tattagttct	gttaagctta	gtacatttct	ctgcggtcct	180
gaaaaataaag	atgttttaat	tttcaatttc	ccgatggcca	aaccattttg	gcatatattg	240
tcattctttc	accgccttct	aaaatttaga	atagtacctc	tgattcatga	tattgatgaa	300
ttaagaggag	gagggggtag	tgattctgtg	cggcttgcta	cctgtgat	ggtcataagt	360
cacaatccac	aaatgacaaa	gtacccttagt	aaatatatgt	ctcaggataa	aatcaaagac	420
ataaaaaatat	ttgattacct	cgtctcatct	gatgtggagc	atcgagatgt	tacggataag	480
caacgagggg	tcatatatgc	tggcaacctt	tctaggcata	aatgttcttt	catatatact	540

gaaggatgcg	atcttactct	ctttgggtgc	aactatgaaa	ataaagataa	tcctaaatat	600
cttggaagtt	ttgatgctca	atctccggaa	aagattaacc	tcccaggcat	gcaatttgga	660
ctcatttggg	atggagattc	tgtcgaaacc	tgtagtgggtg	cctttggcga	ctattttaaag	720
tttaataacc	ctcataagac	atctctttat	ctttcaatgg	aacttccagt	atcttatatgg	780
gataaagccg	cccttgcgga	tttcattgta	gataatagaa	taggatatgc	agtgggatca	840
atcaaagaaa	tgcaagagat	tgttgactcc	atgacaatag	aaacttataa	gcaaattagt	900
gagaatacaa	aaattatttc	tcagaaaatt	cgaacaggaa	gttacttcag	ggatgttctt	960
gaagaggtga	tcgatgatct	taaaactcgc	taa			993

<210> 218

<211> 1167

<212> DNA

<213> E. Coli

<400> 218

atgatctatc	ttgtaattag	tgtctttctc	attacagcat	ttatctgttt	atatcttaag	60
aaggatatat	tttatccagc	cgtatgcgtt	aatatcatct	tcgcactggg	cttattggga	120
tatgaaataa	cgtcagatat	atatgctttt	cagttaaatg	acgctacgtt	gatttttcta	180
ctttgcaatg	ttttgacatt	taccctgtca	tgtttattga	cggaaagtgt	attagatcta	240
aatatcagaa	aagtcaataa	tgtctatttt	agcataccat	cgaagaaagt	gcataatgta	300
ggcttgtag	ttatttcttt	ttcgatgata	tatatatgca	tgagggttaag	taactaccag	360
ttcgggacta	gcttacttag	ctatatgaat	ttgataagag	atgctgatgt	tgaagacaca	420
tcaagaaatt	tctcagcata	catgcagcca	atcattctaa	ctacttttgc	tttattttatt	480
tggctctaaa	aatttactaa	tacaaaggta	agtaaaacat	ttacttttact	tgttttttatt	540
gtattcatct	ttgcaattat	actgaatact	ggtaagcaaa	ttgtctttat	ggttatcatc	600
tcttatgcat	tcattcgtagg	tgttaataga	gtaaaacatt	atgtttatct	tattacagct	660
gtagggtgttc	tattctcctt	gtatatgctc	tttttaccgtg	gactgcctgg	ggggatggca	720
tattatctat	ccatgtattt	ggtcagccct	ataatcgcgt	ttcaggagtt	ttattttcag	780
caagtatcta	actctgccag	ttctcatgtc	ttttggtttt	ttgaaaggct	gatggggcta	840
ttaacagggtg	gagtctctat	gtcgttgc	aaagaatttg	tgtgggtggg	tttgccaaca	900
aatgtttata	ctgctttttc	ggattatgtt	tatatttccg	cggagctaag	ctatttgatg	960
atgggttatc	atggctgtat	ttcagggtgtt	ttatggagat	tgtctcgaaa	ttacatatct	1020
gtgaaaatat	tttattcata	ttttattttat	accttttctt	tcatttttta	tcatagaaagc	1080
ttcatgacta	atattagcag	ttggatacaa	ataactcttt	gtatcatagt	attctctcaa	1140
tttcttaagg	cccagaaaat	aaagtga				1167

<210> 219

<211> 1104

<212> DNA

<213> E. Coli

<400> 219

atgtacgatt	atatcattgt	tggttctggt	ttgtttgggtg	ccgtttgtgc	gaatgagtta	60
aaaaagctaa	acaaaaaagt	tttagtgatt	gagaaaagaa	atcatatcgg	tggaaatgcg	120
tacacagagg	actgtgaggg	tatccagatt	cataaatatg	gtgcacatat	ttttcatacc	180
aatgataaat	atatatggga	ttacgttaat	gatttagtag	aatttaatcg	ttttactaat	240
tctccactgg	cgattttataa	agacaaatta	ttcaaccttc	cttttaatat	gaatactttc	300
caccaaagt	ggggagttaa	agatcctcaa	gaagctcaaa	atatcattaa	tgctcagaaa	360
aaaaagtatg	gtgacaaggt	acctgaaaat	ttggaggagc	aggcgatttc	attagttggg	420
gaggacttat	accaagcatt	gataaagggt	tatacggaga	agcagtgggg	aagaagtgca	480
aaagaattgc	ctgcattttat	tattaagcga	atcccagtg	gatttacgtt	tgataacaat	540
tatttttccg	atcgctatca	aggtattccg	gtgggaggct	acactaagct	tattgaaaaa	600
atgcttgaag	gtgtggacgt	aaaattaggt	attgattttt	tgaaagacaa	agattctcta	660
gcgagtaaa	cccatagaat	catctacact	ggaccattg	atcagtactt	cgactatagg	720
tttgagcgt	tagaatatcg	ctcttttaaaa	tttgagacgg	aacgccatga	atttccaaac	780
ttccaaggga	atgcagtaat	aaatttcact	gatgctaatt	taccatatac	cagaataatt	840
gagcataaac	attttgacta	tgttgagaca	aagcatacgg	ttgttacaaa	agaatatcca	900

ttagagtgga	aagttggcga	cgaaccctac	tatccagtta	atgataataa	aaacatggag	960
ctttttaaga	aatatagaga	gttagctagc	agagaagaca	aggttatatt	tggcgggctg	1020
ttggccgagt	ataaatatta	tgatatgcat	caagtgatat	ctgccgctct	ttatcaagtg	1080
aaaaatataa	tgagtacgga	ttaa				1104

<210> 220

<211> 1116

<212> DNA

<213> E. Coli

<400> 220

atgttcccaa	aaataatgaa	tgatgaaaac	tttttcaaaa	aagcggcggc	gcacggggag	60
gaacctcctt	taactcctca	aaacgaacat	cagcggctcg	ggctgcgctt	cgcccgctcg	120
gtcagactac	cccgctgcgt	tggcctggct	ggcatgttct	taccgattgc	ttcaacgctg	180
gtttcacacc	cgccgcccgg	ctggtggtgg	ctggtgttgg	tcggctgggc	gttcgtctgg	240
ccgcatttag	cctggcagat	agcgagcagg	gccgtcgatc	cgcttagccg	ggaaatttac	300
aacttaaaaa	ccgatgcagt	attagcggga	atgtgggtag	gcgtaatggg	cgtaaacgtg	360
ctgccttcca	ccgcgatgtt	gatgattatg	tgtctgaatt	tgatgggggc	aggcggcccc	420
cgtctgtttg	tcgcggtctt	ggtgttgatg	gtggtttcct	gccttgtcac	cctcgagctg	480
acgggcatta	ccgtgtcggt	caatagtgcg	ccgctggaat	ggtggctctc	ccttccattt	540
attgtcattt	atcctctgct	gtttggctgg	gtcagctacc	agacggcaac	caaactggcg	600
gaacataaac	gcaggttgca	ggtcatgagt	acccgcgacg	gcatgacggg	cgtgtataac	660
cgacgtcatt	gggaaactat	gttacgcaat	gaatttgata	actgtcggcg	gcataatcgc	720
gatgcaacgt	tactgattat	cgatatcgac	catttcaaga	gcatcaacga	tacctggggc	780
catgatgtgg	gcgatgaagc	gattgtggcg	cttaccgcac	agttacaaat	taccctgcgc	840
ggtagcgatg	tgattggctg	gtttggcgcg	gatgagtttg	cagtaatcat	gtccggtacg	900
ccagctgaga	gcgcattacg	cgccatgtta	cgggtgcatg	aagggtctaa	tacattacgt	960
ttgccgaata	cggccacagt	aactttacgg	attagtgtgg	gggttgcgcc	gctgaaccca	1020
caaattgagtc	actatcgtga	gtggttgaaa	tcggcagatt	tggcgcttta	caaagcaaag	1080
aaagccggac	gtaaccgcac	cgaagtggcg	gcctga			1116

<210> 221

<211> 1404

<212> DNA

<213> E. Coli

<400> 221

ttggatgtga	acgttgatca	gttcgatact	gaagctttcc	gtactgacaa	actggaactg	60
accagcggca	acatcgctga	ccataacggg	aacgtagtat	ctggtgtgtt	cgatatccat	120
agcagcgatt	acgttctgaa	cgctgatctg	gtgaacgacc	gtacctggga	tacttccaag	180
tctaactacg	gttacgggat	tgttgctatg	aactctgatg	gtcacctgac	tatcaacggg	240
aacggcgacg	tagacaacgg	tactgaactg	gataacagct	ctgtagacaa	tggtgttgct	300
gcaaccggta	actacaaagt	tcgtatcgac	aacgcaactg	gcgctggcgc	tatcgctgat	360
tacaaagata	aagaaattat	ctacgtaaac	gacgtcaaca	gcaacgcgac	cttctctgct	420
gctaacaaaag	ctgacctggg	tgcatacacc	tatcaggctg	aacagcgcg	taacaccggt	480
gttctgcaac	agatggagct	gaccgactac	gctaacatgg	cgctgagcat	cccgtctgcg	540
aacaccaata	tctggaacct	ggaacaagac	accgttggtg	ctcgtctgac	caactctcgt	600
catggcctgg	ctgataacgg	cggcgcatgg	gtaagctact	tcggtggtaa	cttcaacggc	660
gacaacggca	ccatcaacta	tgatcaggat	gttaacggca	tcatggctcg	tggtgatacc	720
aaaattgacg	gtaacaacgc	taagtggatc	gtcggtgccg	ctgcaggctt	cgctaaagggt	780
gacatgaatg	accgttctgg	tcaggtggat	caagacagcc	agactgccta	catctactct	840
tctgctcact	tcgcgaacaa	cgtctttggt	gatggtagct	tgagctactc	tcacttcaac	900
aacgacctgt	ctgcaaccat	gagcaacggg	acttacgttg	acggtagcac	caactccgac	960
gcttggggct	tcggtttgaa	agccggttac	gacttcaaac	tgggtgatgc	tggttacgtg	1020
actccttacg	gcagcgtttc	tggtctgttc	cagtctgggt	atgactacca	gctgagcaac	1080
gacatgaaaag	ttgacgggtca	gtcttacgac	agcatgcgtt	atgaactggg	tgtagatgca	1140
ggttatacct	tcacctacag	cgaagatcag	gctctgactc	cgtaacttcaa	actggcttac	1200

gtctacgacg	actctaacaa	cgataacgat	gtgaacggcg	attccatcga	taacgggtact	1260
gaagggctctg	cggtacgtgt	tggctctgggt	actcagttta	gcttcaccaa	gaacttcagc	1320
gcctataccg	atgctaacta	cctcgggtggt	ggtgacgtag	atcaagactg	gtccgcgaac	1380
gtgggtgtta	aatataacctg	gtaa				1404

<210> 222

<211> 669

<212> DNA

<213> E. Coli

<400> 222

atgcccgctca	aggatttgac	gggcattact	gcaaaggacg	cgcaaagtgt	atctgtagtt	60
aaacctcttc	aggaatttgg	taagctcgat	aaatgtttgt	ccagatacgg	tacgcgcttc	120
gagtttaata	atgaaaagca	agttatatatt	tccagtgatg	tcaataacga	agatactttc	180
gttatttttag	aggagattat	ctctctgcgt	agagaagaaa	acgtacttat	cggtattacc	240
caggctcctt	atattatggg	gctggctgat	ggtttaatga	aaaacgatat	accatacaaa	300
ttaatatcag	aaggaaattg	tacgggatat	catctaccag	ccaaacaaac	cattacgctt	360
attgaacaaa	atcaactctg	gcgagacgct	ttttactggt	tagcctggca	aaatagaatt	420
ctggaattac	gcgacgtgca	gctcattggg	cataattcct	acgaacaaat	ccgcgcaaca	480
ttattatcaa	tgattgactg	gaatgaagaa	ttgcgatcac	gtattggtgt	gatgaattat	540
atccatcaac	gtacacgcat	atcgcgcttct	gtcgtcgcag	aagttctcgc	tgctttgcgt	600
aaaggcggct	atatcgaaat	gaataaaggc	aaactggtcg	ctatcaaccg	tttgccttca	660
gagtattaa						669

<210> 223

<211> 255

<212> DNA

<213> E. Coli

<400> 223

atgaccgata	aaatccgtac	tctgcaaggt	cgcgttgtta	gcgacaaaat	ggagaaatcc	60
attgttggtg	ctatcgaacg	ttttgtgaaa	cacccgatct	acggtaaatt	catcaagcgt	120
acgaccaaac	tgacagtaca	tgacgagaac	aacgaatgcg	gtatcgggtga	cgtgggttgaa	180
atccgcgaat	gccgtccgct	gtccaagact	aaatcctgga	cgctgggttcg	cgttgtagag	240
aaagcggttc	tgtaa					255

<210> 224

<211> 192

<212> DNA

<213> E. Coli

<400> 224

atgaaagcaa	aagagctgcg	tgagaagagc	gttgaagagc	tgaacaccga	gctgctgaac	60
ctgctgcgtg	agcagttcaa	cctgcgtatg	caggctgcaa	gtggccagct	gcaacagtct	120
cacctgttga	agcaagtgcg	tcgcgatgtc	gcacgcgtta	agactttact	gaacgagaag	180
gcgggtgcgt	aa					192

<210> 225

<211> 411

<212> DNA

<213> E. Coli

<400> 225

atgttacaac	caaagcgtac	aaaattccgt	aaaatgcaca	aaggccgtaa	ccgcggtctg	60
gcgcagggtta	cggatgttag	cttcggcagc	ttcggctctga	aagctgttgg	ccgtggctcg	120
ctgactgccc	gtcagatcga	agcagcacgt	cgtgctatga	cccgtgcagt	taagcgtcaa	180
ggtaagatct	ggatccgtgt	gttcccggac	aaaccgatca	ctgaaaagcc	gctggcagtg	240

cgtatgggta	aaggtaaagg	taacgtggag	tattgggttg	ccttgattca	gccgggtaaa	300
gtcctgtatg	aaatggacgg	tgttcgggaa	gagctggccc	gtgaagcatt	caagctggca	360
gcagcgaaac	tgccgattaa	aaccaccttt	gtaactaaga	cggatgatga	a	411

<210> 226
 <211> 702
 <212> DNA
 <213> E. Coli

<400> 226						
atgggtcaga	aagtacatcc	taatgggtatt	cgccctgggta	ttgtaaaacc	atggaactct	60
acctggtttg	cgaacaccaa	agaattcgct	gacaacctgg	acagcgattt	taaagtacgt	120
cagtacctga	ctaaggaact	ggctaaagcg	tccgtatctc	gtatcgttat	cgagcgcccg	180
gctaagagca	tccgtgtaac	cattcacact	gctcgcccg	gtatcgttat	cggtaaaaaa	240
ggtgaagacg	tagaaaaact	gcgtaaggtc	gtagcggaca	tcgctggcgt	tcctgcacag	300
atcaacatcg	ccgaagttcg	taagcctgaa	ctggacgcaa	aactggttgc	tgacagcatc	360
acttctcagc	tggaacgtcg	cgttatgttc	cgctcggtga	tgaagcgtgc	tgtacagaac	420
gcaatgcgtc	tgggcgctaa	aggtattaaa	gttgaagtta	gcggccgtct	gggcggcgcg	480
gaaatcgcac	gtaccgaatg	gtaccgcgaa	ggtcgcgtac	cgctgcacac	tctgcgtgct	540
gacatcgact	acaacacctc	tgaagcgcac	accacttacg	gtgtaatcgg	cgttaaagtg	600
tggatcttca	aaggcgagat	cctgggtggg	atggctgctg	ttgaacaacc	ggaaaaaccg	660
gctgctcagc	ctaaaaagca	gcagcgtaaa	ggccgtaaat	aa		702

<210> 227
 <211> 333
 <212> DNA
 <213> E. Coli

<400> 227						
atggaaacta	tcgctaaaca	tcgccatgct	cgttcttctg	ctcagaagggt	tcgccttggt	60
gctgacctga	ttcgcggtaa	gaaagtgtcg	caggctctgg	atattttgac	ctacaccaac	120
aagaaagcgg	ctgtactggt	caagaaagtt	ctggaatctg	ccattgctaa	cgctgaacac	180
aacgatggcg	ctgacattga	cgatctgaaa	gttacgaaaa	ttttcgtaga	cgaaggccccg	240
agcatgaagc	gcattatgcc	gcgtgcaaaa	ggctcgtcag	atcgcatcct	gaagcgcacc	300
agccacatca	ctgtggttgt	gtccgatcgc	tga			333

<210> 228
 <211> 279
 <212> DNA
 <213> E. Coli

<400> 228						
atgccacgtt	ctctcaagaa	aggtcctttt	attgacctgc	acttgctgaa	gaaggtagag	60
aaagcgggtg	aaagcggaga	caagaagccc	ctgcgcactt	ggccccgtcg	ttcaacgatc	120
tttctaaca	tgatcggttt	gaccatcgct	gtccataatg	gtcgtcagca	cgttccggta	180
tttctaaccg	acgaaatggt	tggtcacaaa	ctgggtgaat	tcgcaccgac	tcgtacttat	240
cgcggccacg	ctgctgataa	aaaagcgaag	aagaaataa			279

<210> 229
 <211> 822
 <212> DNA
 <213> E. Coli

<400> 229						
atggcagttg	ttaaagttaa	accgacatct	ccgggtcgtc	gccacgtagt	taaagtgggt	60
aaccctgagc	tgcaacaagg	caaacctttt	gtccggttgc	tggaaaaaaa	cagcaaatcc	120
ggtggtcgtg	acaacaatgg	ccgtatcacc	actcgtcata	tcggtggtgg	ccacaagcag	180

gcttaccgta	ttgttgactt	caaacgcaac	aaagacggta	tcccggcagt	tgttgaacgt	240
cttgagtag	atccgaaccg	ttccgcgaac	atcgcgctgg	ttctgtacaa	agacggtgaa	300
cgccgttaca	tccctggcccc	taaaggcctg	aaagctggcg	accagattca	gtctggcggt	360
gatgctgcaa	tcaaaccagg	taacaccctg	ccgatgcgca	acatcccggg	tgggttctact	420
gttcataacg	tagaaatgaa	accaggtaaa	ggcggtcagc	tggcacgttc	cgctgggtact	480
tacgttcaga	tcgttgctcg	tgatgggtgct	tatgtcacc	tgcgtctgcg	ttctgggtgaa	540
atgcgtaaa	tagaagcaga	ctgccgtgca	actctggg	aagttggcaa	tgctgagcat	600
atgctgcgcg	ttctgggtaa	agcagggtgct	gcacgctggc	gtgggtgttcg	tccgaccggt	660
cgcggtaccg	cgatgaaccc	ggtagaccac	ccacatgggtg	gtgggtgaagg	tcgtaacttt	720
ggtaagcacc	cggttaactcc	gtggggcggt	cagaccaaag	gtaagaagac	ccgcagcaac	780
aagcgtactg	ataaattcat	cgtacgtcgc	cgtagcaa	aa		822

<210> 230
 <211> 303
 <212> DNA
 <213> E. Coli

<400> 230						
atgattcgtg	aagaacgtct	gctgaagggtg	ctgcgtgcac	cgcacgtttc	tgaaaaagcg	60
tctactgcga	tggaaaaatc	caacaccatc	gtactcaaag	ttgctaaaga	cgcgaccaaa	120
gcagaaatca	aagctgctgt	gcagaaactg	tttgaagtcg	aagtcgaagt	cgttaacacc	180
ctggtagtta	aagggaaggt	taaacgtcac	ggacagcgta	tcggctcgctg	tagcgactgg	240
aaaaaagctt	acgtcacctt	gaaagaaggc	cagaatctgg	acttcgttgg	cggcgctgag	300
taa						303

<210> 231
 <211> 630
 <212> DNA
 <213> E. Coli

<400> 231						
atgattgggt	tagtcggtaa	aaaagtgggt	atgaccgta	tcttcacaga	agacggcggt	60
tctatcccag	taaccgtaat	cgaagttgaa	gcaaaccg	ttactcaggt	taaagacctg	120
gctaacgatg	gctaccgtgc	tattcagggtg	accaccgggtg	ctaaaaaagc	taaccgtgtg	180
accaagcctg	aagctggcca	cttcgctaaa	gctggcgtag	aagctggccg	tggctctgtg	240
gaattccgcc	tggctgaagg	cgaagagttc	actgtaggctc	agagcattag	cggtgaactg	300
tttgctgacg	ttaaaaaagt	tgacgtaact	ggcacctcta	aaggtaaagg	tttcgcaggt	360
accgttaagc	gctggaactt	ccgtaccag	gacgctactc	acggttaactc	cttgtctcac	420
cgcgttccgg	gttctatcgg	tcagaaccag	actccgggca	aagtgttcaa	aggcaagaaa	480
atggcaggctc	agatgggtaa	cgaacgtgta	accgttcaga	gccttgacgt	agtacgcgtt	540
gacgtgagc	gcaacctgct	gctgggttaa	ggtgctgtcc	cgggtgcaac	cggtagcgac	600
ctgatcggtta	aaccagctgt	gaaggcgtaa				630

<210> 232
 <211> 606
 <212> DNA
 <213> E. Coli

<400> 232						
atggaattag	tattgaaaga	cgcgagagc	gcgctgactg	tttccgaaac	taccttcggt	60
cgtgatttca	acgaagcgct	ggttcaccag	gttggtgttg	cttatgcagc	tgggtgctcgt	120
cagggtagctc	gtgctcagaa	gactcgtgct	gaagtaactg	gttccggtaa	aaaaccgtgg	180
cgccagaaaag	gcaccggccg	tgcgcgttct	ggttctatca	agagcccgat	ctggcggttct	240
ggtggcggtga	cctttgctgc	tcgtccgcag	gaccacagtc	aaaaagttaa	caagaagatg	300
taccgcggcg	cgctgaaaag	catcctgtcc	gaactggtac	gtcaggatcg	tctgatcggt	360
gtcgagaagt	tctctgtaga	agcgccgaaa	actaagctgc	tggcacagaa	actgaaagac	420
atggctcttg	aagatgtgct	gatcatcacc	ggtgagctgg	acgaaaacct	gttcctggct	480

gcgcgcaacc	tgacacaaggt	tgacgtacgc	gatgcaactg	gtatcgaccc	ggttagcctg	540
atcgcccttcg	acaaagtcgt	aatgactgct	gatgctgtta	agcaagttga	ggagatgctg	600
gcatga						606

<210> 233
 <211> 312
 <212> DNA
 <213> E. Coli

<400> 233						
atgcagaacc	aaagaatccg	tatccgcctg	aaagcgtttg	atcatcgtct	gatcgatcaa	60
gcaaccgcgg	aaatcgctga	gactgccaaag	cgcactgggtg	cgcaggtccg	tggtccgatac	120
ccgctgccga	cacgcaaaga	gcgcttcact	gttctgatct	ccccgcacgt	caacaaagac	180
gcgcgcgatac	agtacgaaat	ccgtactcac	ttgcgtctgg	ttgacatcgt	tgagccaacc	240
gagaaaaccg	ttgatgctct	gatgcgtctg	gatctggctg	ccggtgtaga	cgtgcagatac	300
agcctgggtt	aa					312

<210> 234
 <211> 357
 <212> DNA
 <213> E. Coli

<400> 234						
atggctcgcg	taaaacgtgg	tggtattgca	cgtgcacgtc	acaagaaaat	tttgaaacaa	60
gctaaaggct	actacgggtgc	gcgttctcgc	gtataccgcg	ttgccttcca	ggctgttatc	120
aaagctggtc	agtatgctta	ccgtgaccgt	cgtcaacgta	agcgtcagtt	ccgtcaactg	180
tggattgcgc	gtatcaacgc	agcagcacgt	cagaacggta	tttcttacag	caaattcatc	240
aatggcctga	aaaaagcctc	tggtgaaatc	gaccgtaaga	tcctggctga	tatcgagta	300
ttcgacaaag	tagcggtcac	cgctctggtt	gaaaaagcga	aagcagctct	ggcataa	357

<210> 235
 <211> 198
 <212> DNA
 <213> E. Coli

<400> 235						
atgccaaaaa	ttaagaccgt	acgcggtgct	gctaagcgct	tcaaaaaaac	cggtaaagggt	60
ggttttaagc	acaagcacgc	taacctgcgt	cacattctga	ccaaaaaagc	gaccaaaccgt	120
aaacgtcacc	tgcgctccga	agccatgggt	tccaaaggcg	atctgggcct	ggtaatcgcg	180
tgctgcccgt	acgcataa					198

<210> 236
 <211> 543
 <212> DNA
 <213> E. Coli

<400> 236						
attaaaggcg	gaaaacgagt	tcaaacggcg	cgccctaacc	gtatcaatgg	cgaaattcgc	60
gccaggaag	ttcgcttaac	aggtctggaa	ggcgagcagc	ttggtattgt	gagtctgaga	120
gaagctctgg	agaaagcaga	agaagccgga	gtagacttag	tcgagatcag	ccctaaccgcc	180
gagccgccgg	ttgtcgtat	aatggattac	ggcaaattcc	tctatgaaaa	gagcaagtct	240
tctaaggaac	agaagaaaaa	gcaaaaagt	atccagggtta	aggaaattaa	attccgtcct	300
ggtacagatg	aaggcgacta	tcaggtaaaa	ctccgcagcc	tgattcgctt	tctcgaagag	360
ggtgataaag	ccaaaatcac	gctgcgtttc	cgcggtcggtg	agatggcgca	ccagcaaatc	420
ggtatggaag	tgcttaatcg	cgtgaaagac	gatttgcaag	aactggcagt	ggtcgaatcc	480
ttcccaacga	agatcgaagg	ccgccagatg	atcatgggtgc	tcgctcctaa	gaagaaacag	540
taa						543

<210> 237
 <211> 1929
 <212> DNA
 <213> E. Coli

<400> 237

atgcctgtta	taactcttcc	tgatggcagc	caacgccatt	acgatcacgc	tgtaagcccc	60
atggatgttg	cgctggacat	tggtccaggt	ctggcgaaaag	cctgtatcgc	agggcgcggtt	120
aatggcgaac	tggttgatgc	ttgcgatctg	attgaaaacg	acgcacaact	gtcgatcatt	180
accgccaaag	acgaagaagg	tctggagatc	attcgtcact	cctgtgcgca	cctgttaggg	240
cacgcgatta	aacaactttg	gccgcatacc	aaaatggcaa	tgggcccggt	tattgacaac	300
ggtttttatt	acgacgttga	tcttgaccgc	acgttaaccc	aggaagatgt	cgaagcactc	360
gagaagcggg	tgcattgagct	tgctgagaaa	aactacgacg	tcattaagaa	gaaagtcagc	420
tggcacgaag	cgctgaaac	tttcgccaac	cgtggggaga	gctacaaagt	ctccattctt	480
gacgaaaaca	tcgcccata	tgacaagcca	ggtctgtact	tccatgaaga	atatgtcgat	540
atgtgccgcg	gtccgcacgt	accgaacatg	cgtttctgcc	atcatttcaa	actaatgaaa	600
acggcgaggg	cttactggcg	tggcgacagc	aacaacaaaa	tggtgcaacg	tatttacggt	660
acggcggtgg	cagacaaaaa	agcacttaac	gcttacctgc	agcgccctga	agaagccgcg	720
aaacgcgacc	accgtaaaat	cggtaaacag	ctcgacctgt	accatatgca	ggaagaagcg	780
ccgggtatgg	tattctggca	caacgacggc	tggaccatct	tccgtgaact	ggaagtgttt	840
gttcgttcta	aactgaaaga	gtaccagtat	caggaagtta	aaggtccgtt	catgatggac	900
cgtgtcctgt	gggaaaaaac	cggtcactgg	gacaactaca	aagatgcaat	gttcaccaca	960
tcttctgaga	accgtgaata	ctgcattaag	ccgatgaact	gcccggttca	cgtacaaatt	1020
ttcaaccagg	ggctgaagtc	ttatcgcgat	ctgccgctgc	gtatggccga	gtttggtagc	1080
tgccaccgta	acgagccgtc	aggttcgctg	catggcctga	tgccgctgcg	tggatttacc	1140
caggatgacg	cgcatatctt	ctgtactgaa	gaacaaattc	gcgatgaagt	taacggatgt	1200
atccgtttag	tctatgatat	gtacagcact	tttggcttcg	agaagatcgt	cgtcaaaactc	1260
tccactcgtc	ctgaaaaacg	tattggcagc	gacgaaatgt	gggatcgtgc	tgaggcggac	1320
ctggcggttg	cgctggaaga	aaacaacatc	ccgtttgaat	atcaactggg	tgaaggcgct	1380
ttctacggtc	cgaaaattga	atttaccctg	tatgactgcc	tcgatcgtgc	atggcagtcg	1440
ggtacagtac	agctggactt	ctctttgccg	tctcgtctga	gcgcttctta	tgtaggcgaa	1500
gacaatgaac	gtaaagtacc	ggtaatgatt	caccgcgcaa	ttctggggtc	gatggaacgt	1560
ttcatcggtg	tcctgaccga	agagttcgct	ggtttcttcc	cgacctgggt	tgcgccgggt	1620
caggttgtta	tcatgaatat	taccgattca	cagtctgaat	acgttaacga	attgacgcaa	1680
aaactatcaa	atgcgggcat	tcgtgttaaa	gcagacttga	gaaatgagaa	gattggcttt	1740
aaaatccgcg	agcacacttt	gcgtcgcgtc	ccatatatgc	tggtctgtgg	tgataaagag	1800
gtggaatcag	gcaaagttgc	cgttcgcacc	cgccgtggta	aagacctggg	aagcatggac	1860
gtaaatgaag	tgatcgagaa	gctgcaacaa	gagattcgca	gccgcagtct	taaacaattg	1920
gaggaataa						1929

<210> 238
 <211> 1353
 <212> DNA
 <213> E. Coli

<400> 238

atgactaaac	actatgatta	catcgccatc	ggcggcgggca	gcggcggtat	cgctccatc	60
aaccgcgcgg	ctatgtacgg	ccagaaatgt	gcgctgattg	aagccaaaga	gctgggcggc	120
acctgcgtaa	atgttggctg	tgtgccgaaa	aaagtgatgt	ggcacgcggc	gcaaattccgt	180
gaagcgatcc	atatgtacgg	cccggattat	ggttttgata	ccactatcaa	taaattcaac	240
tgggaaacgt	tgatcgccag	ccgtaccgcc	tatatcgacc	gtattcatac	ttcttatgaa	300
aacgtgctcg	gtaaaaataa	cgttgatgta	atcaaaaggct	ttgcccgtt	cgttgatgcc	360
aaaacgctgg	aggtaaaccg	cgaaaccatc	acggccgacg	atattctgat	cgccacaggc	420
ggctcgccga	gccacccgga	tattccgggc	gtggaatacg	gtattgattc	tgatggcttc	480
ttcgcccttc	ctgctttgcc	agagcgcggtg	gcggttggtg	gcgcgggtta	catcgccggt	540
gagctggcgg	gcgtgattaa	cggcctcggc	gcgaaaaacgc	atctgtttgt	gcgtaaacat	600

gcgcgcgtgc	gcagcttcga	cccgatgatt	tccgaaacgc	tggtcgaagt	gatgaacgcc	660
gaaggccccg	agctgcacac	caacgccatc	ccgaaagcgg	tagtgaaaaa	taccgatggg	720
agcctgacgc	tgagagctga	agatggctgc	agtgaacggg	tggtatgcct	gatttggggc	780
attggctcgc	agcctgccaa	tgacaacatc	aacctggaag	ccgctggcgt	taaaactaac	840
gaaaaaggct	atatcgtcgt	cgataaatat	caaaacacca	atattgaagg	tatttacgcg	900
gtgggcgata	acacgggtgc	agtggagctg	acaccgggtg	cagttgcagc	gggtcgccgt	960
ctctctgaac	gcctgtttta	taacaagccg	gatgagcatc	tggtattacag	caacattccg	1020
accgtgggtc	tcagccatcc	gccgattggg	actggttggt	taacggaacc	gcaggcgccg	1080
gagcagtatg	gcgacgatca	ggtgaaagtg	tataaatcct	ctttcaccgc	gatgtatacc	1140
gccgtcacca	ctcaccgcca	gccgtgccgc	atgaagctgg	tgtgcgttgg	atcgggaagag	1200
aagattgtcg	gtattcacgg	cattggcctt	ggtatggacg	aaatgttgca	gggcttcgcg	1260
gtggcgctga	agatgggggc	aaccaaaaaa	gacttcgaca	ataccgtcgc	cattcaccca	1320
acggcggcag	aagagtctgt	gacaatgcgt	taa			1353

<210> 239

<211> 2904

<212> DNA

<213> E. Coli

<400> 239

aagggttaagc	ctcacggttc	attagtagccg	gttagctcaa	cgcacgcgtg	cgcttacaca	60
cccggcctat	caacgtcgtc	gtcttcaacg	ttccttcagg	acccttaaag	ggtcagggag	120
aactcatctc	ggggcaagtt	tcgtgcttag	atgctttcag	cacttatctc	ttccgcattt	180
agctaccggg	cagtgccatt	ggcatgacaa	ccggaacacc	agtgatgcgt	ccactccggt	240
cctctcgtac	taggagcagc	ccccctcagt	tctccagcgc	ccacggcaga	tagggaccga	300
actgtctcac	gacgtttcaa	acccagctcg	cgtaccactt	taaatggcga	acagccatac	360
ccttgggacc	tacttcagcc	ccaggatgtg	atgagccgac	atcgagggtg	caaacaccgc	420
cgtcgatatg	aactcttggg	cggtatcagc	ctgttatccc	cggagtacct	tttatccgtt	480
gagcgatggc	ccttccattc	agaaccaccg	gatcactatg	acctgctttc	gcacctgctc	540
gcgcgcgtcac	gctcgcagtc	aagctggctt	atgccattgc	actaacctcc	tgatgtccga	600
ccaggattag	ccaaccttcg	tgctcctccg	ttactcttta	ggaggagacc	gccccagtca	660
aactaccac	cagacactgt	ccgcaacccg	gattacgggt	caacgttaga	acatcaaaca	720
ttaaagggtg	gtatttcaag	gtcggctcca	tgcagactgg	cgtccacact	tcaaagcctc	780
ccacctatcc	tacacatcaa	ggctcaatgt	tcagtgtcaa	gctatagtaa	aggttcacgg	840
ggtctttccg	tcttgccgcg	ggtacactgc	atcttcacag	cgagttcaat	ttcactgagt	900
ctcgggtgga	gacagcctgg	ccatcattac	gccattcgtg	caggtcggaa	cttaccgcac	960
aaggaatttc	gctaccttag	gaccgttata	gttacggccg	ccgtttaccg	gggcttcgat	1020
caagagcttc	gcttgcgcta	accccatcaa	ttaaccttcc	ggcaccgggc	aggcgtcaca	1080
ccgtatacgt	ccactttcgt	gtttgcacag	tgctgtgttt	ttaataaaca	gttgcagcca	1140
gctggtatct	tcgactgatt	tcagctccat	ccgcgaggga	cctcacctac	atatcagcgt	1200
gccttctccc	gaagttacgg	caccattttg	cctagttcct	tcacccgagt	tctctcaagc	1260
gccttggtat	tctctacctg	accacctgtg	tcggtttggg	gtacgatttg	atgttacctg	1320
atgcttagag	gcttttccgt	gaagcagggc	atttgttgct	tcagcaccgt	agtgcctcgt	1380
catcacgcct	cagccttgat	tttcgggatt	tgcctggaaa	accagcctac	acgcttaaac	1440
cgggacaacc	gtcgcccgcc	caacatagcc	ttctccgtcc	ccccttcgca	gtaacaccaa	1500
gtacaggaat	attaacctgt	ttcccatcga	ctacgccttt	cggcctcgcc	ttaggggctg	1560
actcaccttg	ccccgattaa	cgttggacag	gaacccttgg	tcttccggcg	agcgggcttt	1620
tcaccgcgtt	tatcgttact	tatgtcagca	ttcgcacttc	tgatacctcc	agcatgcctc	1680
acagcacacc	ttcgagggct	tacagaacgc	ttccctaccc	aacaacgcac	aagcgtcgct	1740
gccgcagctt	cgggtgcatg	tttagccccg	ttacatcttc	cgcgcaggcc	gactcgacca	1800
gtgagctatt	acgctttcct	taaatgatgg	ctgcttctaa	gccaaacatcc	tggtgtctctg	1860
ggccttccca	catcgtttcc	cacttaacca	tgactttggg	accttagctg	gcggtctggg	1920
ttgtttccct	cttcacgacg	gacgttagca	cccgcctgtg	gtctcccgtg	ataacattct	1980
ccggtattcg	cagtttgcat	cgggttggtg	agtcgggatg	acccccttgc	cgaacagtg	2040
ctctaccccc	ggagatgaat	tcacgaggcg	ctacctaaat	agctttcggg	gagaaccagc	2100
tatctcccg	tttgattggc	ctttcacccc	cagccacaag	tcacccgcta	atttttcaac	2160
attagtcggt	tcggtcctcc	agttagtggt	acccaacctt	caacctgccc	atggctagat	2220

caccggggttt	cggggtctata	ccctgcaact	taacgcccag	ttaagactcg	gtttcccttc	2280
ggctccccta	ttcgggttaac	cttgctacag	aatataagtc	gctgacccat	tatacaaaag	2340
gtacgcagtc	acacgcctaa	gcgtgctccc	actgcttgta	cgtacacggg	ttcaggttct	2400
ttttcactcc	cctcgccggg	gttctttttcg	cctttccctc	acggtagctg	ttcactatcg	2460
gtcagtcagg	agtatttagc	cttgaggat	ggcccccca	tattcagaca	ggataccacg	2520
tgtcccgcgc	tactcatcga	gctcacagca	tgtgcatttt	tgtgtacggg	gctgtcacc	2580
tgtatcgcg	gcctttccag	acgcttccac	taacacacac	actgattcag	gctctgggct	2640
gctccccgtt	cgctcgccgc	tactggggga	atctcggttg	atttcttttc	ctcggggtac	2700
ttagatgttt	cagttccccc	ggttcgctc	attaacctat	ggattcagtt	aatgatagt	2760
tgtcgaaaca	cactgggttt	ccccattcgg	aaatcgccgg	ttataacggg	tcatatcacc	2820
ttaccgacgc	ttatcgcgag	ttagcacgtc	cttcatcgcc	tctgactgcc	agggcatcca	2880
ccgtgtacgc	ttagtcgctt	aacc				2904

<210> 240
 <211> 120
 <212> DNA
 <213> E. Coli

<400> 240						
atgcctggca	gttccctact	ctcgcatggg	gagaccccac	actaccatcg	gcgctacggc	60
gtttcacttc	tgagttcggc	atggggtcag	gtgggaccac	cgcgctacgg	ccgccaggca	120

<210> 241
 <211> 76
 <212> DNA
 <213> E. Coli

<400> 241						
gtcccccttcg	tctagaggcc	caggacaccg	ccctttcacg	gcggtaacag	gggttcgaat	60
cccctagggg	acgcca					76

<210> 242
 <211> 1549
 <212> DNA
 <213> E. Coli

<400> 242						
aaattgaaga	gtttgatcat	ggctcagatt	gaacgctggc	ggcaggccta	acacatgcaa	60
gtcgaacggg	aacaggaagc	agcttgctgc	ttcgtgacg	agtggcggac	gggtgagtaa	120
tgtctgggaa	gctgcctgat	ggagggggat	aactactgga	aacggtagct	aataccgcat	180
aatgtcgcaa	gaccaaagag	ggggaccttc	gggcctcttg	ccatcggatg	tgcccagatg	240
ggattagctt	gttggtgggg	taacgggtca	ccaaggcgac	gatccctagc	tggtctgaga	300
ggatgaccag	ccacactgga	actgagacac	gtccagact	cctacgggag	gcagcagtgg	360
ggaatattgc	acaatgggag	caagcctgat	gcagccatgc	cgcgtgtatg	aagaaggcct	420
tcgggttgta	aagtactttc	agcggggagg	aagggagtaa	agttaatacc	tttgctcatt	480
gacgttacct	gcagaagaag	caccgggctaa	ctccgtgcc	gcagccgcgg	taatacggag	540
ggtgcaagcg	ttaatcgga	ttactgggag	taaagcgcac	gcagggcggg	tggttaagtc	600
agatgtgaaa	tccccgggct	caacctggga	actgcatctg	atactggcaa	gcttgagtct	660
cgtagagggg	ggtagaattc	caggtgtagc	ggtgaaatgc	gtagagatct	ggaggaatac	720
cggtggcgaa	ggcgccccc	tggacgaaga	ctgacgctca	ggtgcgaaag	cgtgggggagc	780
aaacaggatt	agataccctg	gtagtccacg	ccgtaaacga	tgtcgacttg	gaggttggtc	840
ccttgaggcg	tggcttccgg	agctaacgcg	ttaaagtcgac	cgccctgggga	gtacggccgc	900
aagggttaaaa	ctcaaatgaa	ttgacggggg	cccgcacaag	cggtggagca	tgtggtttaa	960
ttcgtatgcaa	cgcgaagaac	cttacctggt	cttgacatcc	acggaagtgt	tcagagatga	1020
gaatgtgcct	tcgggaaccg	tgagacaggt	gctgcatggc	tgtcgtcagc	tcgtgtgtgt	1080
aatgttggtg	ttaaagtcgg	caacgagcgc	aacccttatc	ctttgttgcc	agcgggtccgg	1140
ccgggaactc	aaaggagact	gccagtgata	aactggagga	aggtggggat	gacgtcaagt	1200

catcatggcc	cttacgacca	gggctacaca	cgtgctacaa	tggcgcatac	aaagagaagc	1260
gacctcgcgga	gagcaagcgg	acctcataaa	gtgcgtcgta	gtccggattg	gagtctgcaa	1320
ctcgactcca	tgaagtcgga	atcgctagta	atcgtggatc	agaatgccac	ggtgaatacg	1380
ttcccggggcc	ttgtacacac	cgcccgtcac	accatgggag	tggggttgcaa	aagaagtagg	1440
tagcttaacc	ttcgggaggg	cgcttaccac	tttgtgattc	atgactgggg	tgaagtcgta	1500
acaaggtaac	cgtaggggaa	cctgcggttg	gatcacctcc	ttaccttaa		1549

<210> 243

<211> 221

<212> PRT

<213> E. Coli

<400> 243

Met	Asn	Val	Phe	Ser	Gln	Thr	Gln	Arg	Tyr	Lys	Ala	Leu	Phe	Trp	Leu
1				5					10					15	
Ser	Leu	Phe	His	Leu	Leu	Val	Ile	Thr	Ser	Ser	Asn	Tyr	Leu	Val	Gln
			20					25					30		
Leu	Pro	Val	Ser	Ile	Leu	Gly	Phe	His	Thr	Thr	Trp	Gly	Ala	Phe	Ser
		35					40					45			
Phe	Pro	Phe	Ile	Phe	Leu	Ala	Thr	Asp	Leu	Thr	Val	Arg	Ile	Phe	Gly
	50				55					60					
Ala	Pro	Leu	Ala	Arg	Arg	Ile	Ile	Phe	Ala	Val	Met	Ile	Pro	Ala	Leu
65				70						75				80	
Leu	Ile	Ser	Tyr	Val	Ile	Ser	Ser	Leu	Phe	Tyr	Met	Gly	Ser	Trp	Gln
			85					90					95		
Gly	Phe	Gly	Ala	Leu	Ala	His	Phe	Asn	Leu	Phe	Val	Ala	Arg	Ile	Ala
			100					105					110		
Thr	Ala	Ser	Phe	Met	Ala	Tyr	Ala	Leu	Gly	Gln	Ile	Leu	Asp	Val	His
	115						120					125			
Val	Phe	Asn	Arg	Leu	Arg	Gln	Ser	Arg	Arg	Trp	Trp	Leu	Ala	Pro	Thr
	130					135					140				
Ala	Ser	Thr	Leu	Phe	Gly	Asn	Val	Ser	Asp	Thr	Leu	Ala	Phe	Phe	Phe
145					150				155					160	
Ile	Ala	Phe	Trp	Arg	Ser	Pro	Asp	Ala	Phe	Met	Ala	Glu	His	Trp	Met
			165					170						175	
Glu	Ile	Ala	Leu	Val	Asp	Tyr	Cys	Phe	Lys	Val	Leu	Ile	Ser	Ile	Val
	180							185					190		
Phe	Phe	Leu	Pro	Met	Tyr	Gly	Val	Leu	Leu	Asn	Met	Leu	Leu	Lys	Arg
	195					200					205				
Leu	Ala	Asp	Lys	Ser	Glu	Ile	Asn	Ala	Leu	Gln	Ala	Ser			
	210					215					220				

<210> 244

<211> 203

<212> PRT

<213> E. Coli

<400> 244

Met	Ile	Arg	Trp	Met	Asn	Glu	Pro	Leu	Trp	Pro	Phe	Ile	Glu	Arg	Lys
1				5					10					15	
Lys	Ser	Met	Arg	Asn	Leu	Val	Lys	Tyr	Val	Gly	Ile	Gly	Leu	Leu	Val
			20					25					30		
Met	Gly	Leu	Ala	Ala	Cys	Asp	Asp	Lys	Asp	Thr	Asn	Ala	Thr	Ala	Gln
	35					40					45				
Gly	Ser	Val	Ala	Glu	Ser	Asn	Ala	Thr	Gly	Asn	Pro	Val	Asn	Leu	Leu

50	55	60
Asp Gly Lys Leu Ser Phe Ser Leu Pro Ala Asp Met Thr Asp Gln Ser		
65	70	75
Gly Lys Leu Gly Thr Gln Ala Asn Asn Met His Val Trp Ser Asp Ala		80
	85	90
Thr Gly Gln Lys Ala Val Ile Val Ile Met Gly Asp Asp Pro Lys Glu		95
	100	105
Asp Leu Ala Val Leu Ala Lys Arg Leu Glu Asp Gln Gln Arg Ser Arg		110
	115	120
Asp Pro Gln Leu Gln Val Val Thr Asn Lys Ala Ile Glu Leu Lys Gly		125
	130	135
His Lys Met Gln Gln Leu Asp Ser Ile Ile Ser Ala Lys Gly Gln Thr		140
145	150	155
Ala Tyr Ser Ser Val Ile Leu Gly Asn Val Gly Asn Gln Leu Leu Thr		160
	165	170
Met Gln Ile Thr Leu Pro Ala Asp Asp Gln Gln Lys Ala Gln Thr Thr		175
	180	185
Ala Glu Asn Ile Ile Asn Thr Leu Val Ile Gln		190
	195	200

<210> 245
 <211> 324
 <212> PRT
 <213> E. Coli

<400> 245

Met Ala Asn Met Phe Ala Leu Ile Leu Val Ile Ala Thr Leu Val Thr	
1	5
Gly Ile Leu Trp Cys Val Asp Lys Phe Phe Phe Ala Pro Lys Arg Arg	10
	15
	20
Glu Arg Gln Ala Ala Ala Gln Ala Ala Ala Gly Asp Ser Leu Asp Lys	25
	30
	35
Ala Thr Leu Lys Lys Val Ala Pro Lys Pro Gly Trp Leu Glu Thr Gly	40
	45
	50
Ala Ser Val Phe Pro Val Leu Ala Ile Val Leu Ile Val Arg Ser Phe	55
65	60
	70
Ile Tyr Glu Pro Phe Gln Ile Pro Ser Gly Ser Met Met Pro Thr Leu	75
	80
	85
Leu Ile Gly Asp Phe Ile Leu Val Glu Lys Phe Ala Tyr Gly Ile Lys	90
	95
	100
Asp Pro Ile Tyr Gln Lys Thr Leu Ile Glu Thr Gly His Pro Lys Arg	105
	110
	115
Gly Asp Ile Val Val Phe Lys Tyr Pro Glu Asp Pro Lys Leu Asp Tyr	120
	125
	130
Ile Lys Arg Ala Val Gly Leu Pro Gly Asp Lys Val Thr Tyr Asp Pro	135
145	140
	150
Val Ser Lys Glu Leu Thr Ile Gln Pro Gly Cys Ser Ser Gly Gln Ala	155
	160
	165
Cys Glu Asn Ala Leu Pro Val Thr Tyr Ser Asn Val Glu Pro Ser Asp	170
	175
	180
Phe Val Gln Thr Phe Ser Arg Arg Asn Gly Gly Glu Ala Thr Ser Gly	185
	190
	195
Phe Phe Glu Val Pro Lys Asn Glu Thr Lys Glu Asn Gly Ile Arg Leu	200
210	205
	210
Ser Glu Arg Lys Glu Thr Leu Gly Asp Val Thr His Arg Ile Leu Thr	215
	220
225	225
	230
	235
	240

Val	Pro	Ile	Ala	Gln	Asp	Gln	Val	Gly	Met	Tyr	Tyr	Gln	Gln	Pro	Gly
				245					250					255	
Gln	Gln	Leu	Ala	Thr	Trp	Ile	Val	Pro	Pro	Gly	Gln	Tyr	Phe	Met	Met
			260					265					270		
Gly	Asp	Asn	Arg	Asp	Asn	Ser	Ala	Asp	Ser	Arg	Tyr	Trp	Gly	Phe	Val
		275					280					285			
Pro	Glu	Ala	Asn	Leu	Val	Gly	Arg	Ala	Thr	Ala	Ile	Trp	Met	Ser	Phe
	290					295					300				
Asp	Lys	Gln	Glu	Gly	Glu	Trp	Pro	Thr	Gly	Leu	Arg	Leu	Ser	Arg	Ile
305					310					315					320
Gly	Gly	Ile	His												

<210> 246
 <211> 586
 <212> PRT
 <213> E. Coli

<400> 246

Met	Thr	Ile	Thr	Lys	Leu	Ala	Trp	Arg	Asp	Leu	Val	Pro	Asp	Thr	Asp
1				5					10					15	
Ser	Tyr	Gln	Glu	Ile	Phe	Ala	Gln	Pro	His	Leu	Ile	Asp	Glu	Asn	Asp
			20					25					30		
Pro	Leu	Phe	Ser	Asp	Thr	Gln	Pro	Arg	Leu	Gln	Phe	Ala	Leu	Glu	Gln
		35					40					45			
Leu	Leu	His	Thr	Arg	Ala	Ser	Ser	Ser	Phe	Met	Leu	Ala	Lys	Ala	Pro
	50					55					60				
Glu	Glu	Ser	Glu	Tyr	Leu	Asn	Leu	Ile	Ala	Asn	Ala	Ala	Arg	Thr	Leu
65					70					75					80
Gln	Ser	Asp	Ala	Gly	Gln	Leu	Val	Gly	Gly	His	Tyr	Glu	Val	Ser	Gly
				85					90					95	
His	Ser	Ile	Arg	Leu	Arg	His	Ala	Val	Ser	Ala	Asp	Asp	Asn	Phe	Ala
			100					105					110		
Thr	Leu	Thr	Gln	Val	Val	Ala	Ala	Asp	Trp	Val	Glu	Ala	Glu	Gln	Leu
	115						120					125			
Phe	Gly	Cys	Leu	Arg	Gln	Phe	Asn	Gly	Asp	Ile	Thr	Leu	Gln	Pro	Gly
	130					135					140				
Leu	Val	His	Gln	Ala	Asn	Gly	Gly	Ile	Leu	Ile	Ile	Ser	Leu	Arg	Thr
145					150					155					160
Leu	Leu	Ala	Gln	Pro	Leu	Leu	Trp	Met	Arg	Leu	Lys	Asn	Ile	Val	Asn
				165					170					175	
Arg	Glu	Arg	Phe	Asp	Trp	Val	Ala	Phe	Asp	Glu	Ser	Arg	Pro	Leu	Pro
			180					185					190		
Val	Ser	Val	Pro	Ser	Met	Pro	Leu	Lys	Leu	Lys	Val	Ile	Leu	Val	Gly
	195						200					205			
Glu	Arg	Glu	Ser	Leu	Ala	Asp	Phe	Gln	Glu	Met	Glu	Pro	Glu	Leu	Ser
	210					215					220				
Glu	Gln	Ala	Ile	Tyr	Ser	Glu	Phe	Glu	Asp	Thr	Leu	Gln	Ile	Val	Asp
225					230					235					240
Ala	Glu	Ser	Val	Thr	Gln	Trp	Cys	Arg	Trp	Val	Thr	Phe	Thr	Ala	Arg
				245						250				255	
His	Asn	His	Leu	Pro	Ala	Pro	Gly	Ala	Asp	Ala	Trp	Pro	Ile	Leu	Ile
			260					265					270		
Arg	Glu	Ala	Arg	Tyr	Thr	Gly	Glu	Gln	Glu	Thr	Leu	Pro	Leu	Ser	
	275					280					285				

Pro Gln Trp Ile Leu Arg Gln Cys Lys Glu Val Ala Ser Leu Cys Asp
 290 295 300
 Gly Asp Thr Phe Ser Gly Glu Gln Leu Asn Leu Met Leu Gln Gln Arg
 305 310 315 320
 Glu Trp Arg Glu Gly Phe Leu Ala Glu Arg Met Gln Asp Glu Ile Leu
 325 330 335
 Gln Glu Gln Ile Leu Ile Glu Thr Glu Gly Glu Arg Ile Gly Gln Ile
 340 345 350
 Asn Ala Leu Ser Val Ile Glu Phe Pro Gly His Pro Arg Ala Phe Gly
 355 360 365
 Glu Pro Ser Arg Ile Ser Cys Val Val His Ile Gly Asp Gly Glu Phe
 370 375 380
 Thr Asp Ile Glu Arg Lys Ala Glu Leu Gly Gly Asn Ile His Ala Lys
 385 390 395 400
 Gly Met Met Ile Met Gln Ala Phe Leu Met Ser Glu Leu Gln Leu Glu
 405 410 415
 Gln Gln Ile Pro Phe Ser Ala Ser Leu Thr Phe Glu Gln Ser Tyr Ser
 420 425 430
 Glu Val Asp Gly Asp Ser Ala Ser Met Ala Glu Leu Cys Ala Leu Ile
 435 440 445
 Ser Ala Leu Ala Asp Val Pro Val Asn Gln Ser Ile Ala Ile Thr Gly
 450 455 460
 Ser Val Asp Gln Phe Gly Arg Ala Gln Pro Val Gly Gly Leu Asn Glu
 465 470 475 480
 Lys Ile Glu Gly Phe Phe Ala Ile Cys Gln Gln Arg Glu Leu Thr Gly
 485 490 495
 Lys Gln Gly Val Ile Ile Pro Thr Ala Asn Val Arg His Leu Ser Leu
 500 505 510
 His Ser Glu Leu Val Lys Ala Val Glu Glu Gly Lys Phe Thr Ile Trp
 515 520 525
 Ala Val Asp Asp Val Thr Asp Ala Leu Pro Leu Leu Leu Asn Leu Val
 530 535 540
 Trp Asp Gly Glu Gly Gln Thr Thr Leu Met Gln Thr Ile Gln Glu Arg
 545 550 555 560
 Ile Ala Gln Ala Ser Gln Gln Glu Gly Arg His Arg Phe Pro Trp Pro
 565 570 575
 Leu Arg Trp Leu Asn Trp Phe Ile Pro Asn
 580 585

<210> 247

<211> 394

<212> PRT

<213> E. Coli

<400> 247

Met Ser Lys Glu Lys Phe Glu Arg Thr Lys Pro His Val Asn Val Gly
 1 5 10 15
 Thr Ile Gly His Val Asp His Gly Lys Thr Thr Leu Thr Ala Ala Ile
 20 25 30
 Thr Thr Val Leu Ala Lys Thr Tyr Gly Gly Ala Ala Arg Ala Phe Asp
 35 40 45
 Gln Ile Asp Asn Ala Pro Glu Lys Ala Arg Gly Ile Thr Ile Asn
 50 55 60
 Thr Ser His Val Glu Tyr Asp Thr Pro Thr Arg His Tyr Ala His Val
 65 70 75 80
 Asp Cys Pro Gly His Ala Asp Tyr Val Lys Asn Met Ile Thr Gly Ala

65					70					75				80
Pro	His	Arg	Ile	Asn	Ile	Ile	Asp	Thr	Pro	Gly	His	Val	Asp	Thr
				85					90				95	
Ile	Glu	Val	Glu	Arg	Ser	Met	Arg	Val	Leu	Asp	Gly	Ala	Val	Met
			100					105					110	
Tyr	Cys	Ala	Val	Gly	Gly	Val	Gln	Pro	Gln	Ser	Glu	Thr	Val	Trp
		115					120					125		Arg
Gln	Ala	Asn	Lys	Tyr	Lys	Val	Pro	Arg	Ile	Ala	Phe	Val	Asn	Lys
		130				135					140			Met
Asp	Arg	Met	Gly	Ala	Asn	Phe	Leu	Lys	Val	Val	Asn	Gln	Ile	Lys
145					150					155				160
Arg	Leu	Gly	Ala	Asn	Pro	Val	Pro	Leu	Gln	Leu	Ala	Ile	Gly	Ala
			165						170					175
Glu	His	Phe	Thr	Gly	Val	Val	Asp	Leu	Val	Lys	Met	Lys	Ala	Ile
			180					185					190	Asn
Trp	Asn	Asp	Ala	Asp	Gln	Gly	Val	Thr	Phe	Glu	Tyr	Glu	Asp	Ile
		195					200					205		Pro
Ala	Asp	Met	Val	Glu	Leu	Ala	Asn	Glu	Trp	His	Gln	Asn	Leu	Ile
		210				215					220			Glu
Ser	Ala	Ala	Glu	Ala	Ser	Glu	Glu	Leu	Met	Glu	Lys	Tyr	Leu	Gly
225					230					235				240
Glu	Glu	Leu	Thr	Glu	Ala	Glu	Ile	Lys	Gly	Ala	Leu	Arg	Gln	Arg
			245						250					255
Leu	Asn	Asn	Glu	Ile	Ile	Leu	Val	Thr	Cys	Gly	Ser	Ala	Phe	Lys
			260					265					270	Asn
Lys	Gly	Val	Gln	Ala	Met	Leu	Asp	Ala	Val	Ile	Asp	Tyr	Leu	Pro
		275					280					285		Ser
Pro	Val	Asp	Val	Pro	Ala	Ile	Asn	Gly	Ile	Leu	Asp	Asp	Gly	Lys
		290				295					300			Asp
Thr	Pro	Ala	Glu	Arg	His	Ala	Ser	Asp	Asp	Glu	Pro	Phe	Ser	Ala
305					310					315				320
Ala	Phe	Lys	Ile	Ala	Thr	Asp	Pro	Phe	Val	Gly	Asn	Leu	Thr	Phe
			325						330					335
Arg	Val	Tyr	Ser	Gly	Val	Val	Asn	Ser	Gly	Asp	Thr	Val	Leu	Asn
			340					345					350	Ser
Val	Lys	Ala	Ala	Arg	Glu	Arg	Phe	Gly	Arg	Ile	Val	Gln	Met	His
		355					360					365		Ala
Asn	Lys	Arg	Glu	Glu	Ile	Lys	Glu	Val	Arg	Ala	Gly	Asp	Ile	Ala
		370				375					380			Ala
Ala	Ile	Gly	Leu	Lys	Asp	Val	Thr	Thr	Gly	Asp	Thr	Leu	Cys	Asp
385					390					395				400
Asp	Ala	Pro	Ile	Ile	Leu	Glu	Arg	Met	Glu	Phe	Pro	Glu	Pro	Val
			405						410					415
Ser	Ile	Ala	Val	Glu	Pro	Lys	Thr	Lys	Ala	Asp	Gln	Glu	Lys	Met
			420					425					430	Gly
Leu	Ala	Leu	Gly	Arg	Leu	Ala	Lys	Glu	Asp	Pro	Ser	Phe	Arg	Val
		435					440					445		Trp
Thr	Asp	Glu	Glu	Ser	Asn	Gln	Thr	Ile	Ile	Ala	Gly	Met	Gly	Glu
		450				455					460			Leu
His	Leu	Asp	Ile	Ile	Val	Asp	Arg	Met	Lys	Arg	Glu	Phe	Asn	Val
465					470					475				480
Ala	Asn	Val	Gly	Lys	Pro	Gln	Val	Ala	Tyr	Arg	Glu	Thr	Ile	Arg
			485						490					495
Lys	Val	Thr	Asp	Val	Glu	Gly	Lys	His	Ala	Lys	Gln	Ser	Gly	Gly
			500					505					510	Arg
Gly	Gln	Tyr	Gly	His	Val	Val	Ile	Asp	Met	Tyr	Pro	Leu	Glu	Pro
		515					520					525		Gly

Ser	Asn	Pro	Lys	Gly	Tyr	Glu	Phe	Ile	Asn	Asp	Ile	Lys	Gly	Gly	Val
530						535					540				
Ile	Pro	Gly	Glu	Tyr	Ile	Pro	Ala	Val	Asp	Lys	Gly	Ile	Gln	Glu	Gln
545					550					555					560
Leu	Lys	Ala	Gly	Pro	Leu	Ala	Gly	Tyr	Pro	Val	Val	Asp	Met	Gly	Ile
				565					570					575	
Arg	Leu	His	Phe	Gly	Ser	Tyr	His	Asp	Val	Asp	Ser	Ser	Glu	Leu	Ala
			580					585					590		
Phe	Lys	Leu	Ala	Ala	Ser	Ile	Ala	Phe	Lys	Glu	Gly	Phe	Lys	Lys	Ala
		595					600					605			
Lys	Pro	Val	Leu	Leu	Glu	Pro	Ile	Met	Lys	Val	Glu	Val	Glu	Thr	Pro
	610					615					620				
Glu	Glu	Asn	Thr	Gly	Asp	Val	Ile	Gly	Asp	Leu	Ser	Arg	Arg	Arg	Gly
625					630					635					640
Met	Leu	Lys	Gly	Gln	Glu	Ser	Glu	Val	Thr	Gly	Val	Lys	Ile	His	Ala
				645						650				655	
Glu	Val	Pro	Leu	Ser	Glu	Met	Phe	Gly	Tyr	Ala	Thr	Gln	Leu	Arg	Ser
			660					665					670		
Leu	Thr	Lys	Gly	Arg	Ala	Ser	Tyr	Thr	Met	Glu	Phe	Leu	Lys	Tyr	Asp
		675					680					685			
Glu	Ala	Pro	Ser	Asn	Val	Ala	Gln	Ala	Val	Ile	Glu	Ala	Arg	Gly	Lys
	690					695					700				

<210> 249

<211> 179

<212> PRT

<213> E. Coli

<400> 249

Met	Pro	Arg	Arg	Arg	Val	Ile	Gly	Gln	Arg	Lys	Ile	Leu	Pro	Asp	Pro
1				5					10					15	
Lys	Phe	Gly	Ser	Glu	Leu	Leu	Ala	Lys	Phe	Val	Asn	Ile	Leu	Met	Val
			20					25					30		
Asp	Gly	Lys	Lys	Ser	Thr	Ala	Glu	Ser	Ile	Val	Tyr	Ser	Ala	Leu	Glu
		35					40					45			
Thr	Leu	Ala	Gln	Arg	Ser	Gly	Lys	Ser	Glu	Leu	Glu	Ala	Phe	Glu	Val
	50					55					60				
Ala	Leu	Glu	Asn	Val	Arg	Pro	Thr	Val	Glu	Val	Lys	Ser	Arg	Arg	Val
65				70						75				80	
Gly	Gly	Ser	Thr	Tyr	Gln	Val	Pro	Val	Glu	Val	Arg	Pro	Val	Arg	Arg
				85					90					95	
Asn	Ala	Leu	Ala	Met	Arg	Trp	Ile	Val	Glu	Ala	Ala	Arg	Lys	Arg	Gly
		100						105					110		
Asp	Lys	Ser	Met	Ala	Leu	Arg	Leu	Ala	Asn	Glu	Leu	Ser	Asp	Ala	Ala
		115					120					125			
Glu	Asn	Lys	Gly	Thr	Ala	Val	Lys	Lys	Arg	Glu	Asp	Val	His	Arg	Met
	130					135					140				
Ala	Glu	Ala	Asn	Lys	Ala	Phe	Ala	His	Tyr	Arg	Trp	Leu	Ser	Leu	Arg
145				150						155				160	
Ser	Phe	Ser	His	Gln	Ala	Gly	Ala	Ser	Ser	Lys	Gln	Pro	Ala	Leu	Gly
				165					170					175	
Tyr	Leu	Asn													

<210> 250

<211> 124
 <212> PRT
 <213> E. Coli

<400> 250
 Met Ala Thr Val Asn Gln Leu Val Arg Lys Pro Arg Ala Arg Lys Val
 1 5 10 15
 Ala Lys Ser Asn Val Pro Ala Leu Glu Ala Cys Pro Gln Lys Arg Gly
 20 25 30
 Val Cys Thr Arg Val Tyr Thr Thr Pro Lys Lys Pro Asn Ser Ala
 35 40 45
 Leu Arg Lys Val Cys Arg Val Arg Leu Thr Asn Gly Phe Glu Val Thr
 50 55 60
 Ser Tyr Ile Gly Gly Glu Gly His Asn Leu Gln Glu His Ser Val Ile
 65 70 75 80
 Leu Ile Arg Gly Gly Arg Val Lys Asp Leu Pro Gly Val Arg Tyr His
 85 90 95
 Thr Val Arg Gly Ala Leu Asp Cys Ser Gly Val Lys Asp Arg Lys Gln
 100 105 110
 Ala Arg Ser Lys Tyr Gly Val Lys Arg Pro Lys Ala
 115 120

<210> 251
 <211> 165
 <212> PRT
 <213> E. Coli

<400> 251
 Met Ala Leu Asn Leu Gln Asp Lys Gln Ala Ile Val Ala Glu Val Ser
 1 5 10 15
 Glu Val Ala Lys Gly Ala Leu Ser Ala Val Val Ala Asp Ser Arg Gly
 20 25 30
 Val Thr Val Asp Lys Met Thr Glu Leu Arg Lys Ala Gly Arg Glu Ala
 35 40 45
 Gly Val Tyr Met Arg Val Val Arg Asn Thr Leu Leu Arg Arg Ala Val
 50 55 60
 Glu Gly Thr Pro Phe Glu Cys Leu Lys Asp Ala Phe Val Gly Pro Thr
 65 70 75 80
 Leu Ile Ala Tyr Ser Met Glu His Pro Gly Ala Ala Ala Arg Leu Phe
 85 90 95
 Lys Glu Phe Ala Lys Ala Asn Ala Lys Phe Glu Val Lys Ala Ala Ala
 100 105 110
 Phe Glu Gly Glu Leu Ile Pro Ala Ser Gln Ile Asp Arg Leu Ala Thr
 115 120 125
 Leu Pro Thr Tyr Glu Glu Ala Ile Ala Arg Leu Met Ala Thr Met Lys
 130 135 140
 Glu Ala Ser Ala Gly Lys Leu Val Arg Thr Leu Ala Ala Val Arg Asp
 145 150 155 160
 Ala Lys Glu Ala Ala
 165

<210> 252
 <211> 121
 <212> PRT
 <213> E. Coli

<400> 252

Met	Ser	Ile	Thr	Lys	Asp	Gln	Ile	Ile	Glu	Ala	Val	Ala	Ala	Met	Ser
1				5					10					15	
Val	Met	Asp	Val	Val	Glu	Leu	Ile	Ser	Ala	Met	Glu	Glu	Lys	Phe	Gly
			20					25					30		
Val	Ser	Ala	Ala	Ala	Ala	Val	Ala	Val	Ala	Ala	Gly	Pro	Val	Glu	Ala
		35					40					45			
Ala	Glu	Glu	Lys	Thr	Glu	Phe	Asp	Val	Ile	Leu	Lys	Ala	Ala	Gly	Ala
	50					55					60				
Asn	Lys	Val	Ala	Val	Ile	Lys	Ala	Val	Arg	Gly	Ala	Thr	Gly	Leu	Gly
65					70					75				80	
Leu	Lys	Glu	Ala	Lys	Asp	Leu	Val	Glu	Ser	Ala	Pro	Ala	Ala	Leu	Lys
				85				90						95	
Glu	Gly	Val	Ser	Lys	Asp	Asp	Ala	Glu	Ala	Leu	Lys	Lys	Ala	Leu	Glu
			100					105					110		
Glu	Ala	Gly	Ala	Glu	Val	Glu	Val	Lys							
		115						120							

<210> 253

<211> 714

<212> PRT

<213> E. Coli

<400> 253

Met	Ser	Arg	Ile	Ile	Met	Leu	Ile	Pro	Thr	Gly	Thr	Ser	Val	Gly	Leu
1				5					10					15	
Thr	Ser	Val	Ser	Leu	Gly	Val	Ile	Arg	Ala	Met	Glu	Arg	Lys	Gly	Val
			20					25					30		
Arg	Leu	Ser	Val	Phe	Lys	Pro	Ile	Ala	Gln	Pro	Arg	Thr	Gly	Gly	Asp
		35					40					45			
Ala	Pro	Asp	Gln	Thr	Thr	Thr	Ile	Val	Arg	Ala	Asn	Ser	Ser	Thr	Thr
	50					55					60				
Thr	Ala	Ala	Glu	Pro	Leu	Lys	Met	Ser	Tyr	Val	Glu	Gly	Leu	Leu	Ser
65					70					75				80	
Ser	Asn	Gln	Lys	Asp	Val	Leu	Met	Glu	Glu	Ile	Val	Ala	Asn	Tyr	His
			85					90						95	
Ala	Asn	Thr	Lys	Asp	Ala	Glu	Val	Val	Leu	Val	Glu	Gly	Leu	Val	Pro
			100					105					110		
Thr	Arg	Lys	His	Gln	Phe	Ala	Gln	Ser	Leu	Asn	Tyr	Glu	Ile	Ala	Lys
		115					120						125		
Thr	Leu	Asn	Ala	Glu	Ile	Val	Phe	Val	Met	Ser	Gln	Gly	Thr	Asp	Thr
	130					135						140			
Pro	Glu	Gln	Leu	Lys	Glu	Arg	Ile	Glu	Leu	Thr	Arg	Asn	Ser	Phe	Gly
145					150					155					160
Gly	Ala	Lys	Asn	Thr	Asn	Ile	Thr	Gly	Val	Ile	Val	Asn	Lys	Leu	Asn
			165					170						175	
Ala	Pro	Val	Asp	Glu	Gln	Gly	Arg	Thr	Arg	Pro	Asp	Leu	Ser	Glu	Ile
			180					185					190		
Phe	Asp	Asp	Ser	Ser	Lys	Ala	Lys	Val	Asn	Asn	Val	Asp	Pro	Ala	Lys
		195					200					205			
Leu	Gln	Glu	Ser	Ser	Pro	Leu	Pro	Val	Leu	Gly	Ala	Val	Pro	Trp	Ser
	210					215					220				
Phe	Asp	Leu	Ile	Ala	Thr	Arg	Ala	Ile	Asp	Met	Ala	Arg	His	Leu	Asn
225					230					235				240	
Ala	Thr	Ile	Ile	Asn	Glu	Gly	Asp	Ile	Asn	Thr	Arg	Arg	Val	Lys	Ser

Leu Thr Ala Ile Gln Ser Ala Gln Gln Gln
705 710

<210> 254
<211> 588
<212> PRT
<213> E. Coli

<400> 254
Met Asn Asn Ser Ile Asn His Lys Phe His His Ile Ser Arg Ala Glu
1 5 10 15
Tyr Gln Glu Leu Leu Ala Val Ser Arg Gly Asp Ala Val Ala Asp Tyr
20 25 30
Ile Ile Asp Asn Val Ser Ile Leu Asp Leu Ile Asn Gly Gly Glu Ile
35 40 45
Ser Gly Pro Ile Val Ile Lys Gly Arg Tyr Ile Ala Gly Val Gly Ala
50 55 60
Glu Tyr Thr Asp Ala Pro Ala Leu Gln Arg Ile Asp Ala Arg Gly Ala
65 70 75 80
Thr Ala Val Pro Gly Phe Ile Asp Ala His Leu His Ile Glu Ser Ser
85 90 95
Met Met Thr Pro Val Thr Phe Glu Thr Ala Thr Leu Pro Arg Gly Leu
100 105 110
Thr Thr Val Ile Cys Asp Pro His Glu Ile Val Asn Val Met Gly Glu
115 120 125
Ala Gly Phe Ala Trp Phe Ala Arg Cys Ala Glu Gln Ala Arg Gln Asn
130 135 140
Gln Tyr Leu Gln Val Ser Ser Cys Val Pro Ala Leu Glu Gly Cys Asp
145 150 155 160
Val Asn Gly Ala Ser Phe Thr Leu Glu Gln Met Leu Ala Trp Arg Asp
165 170 175
His Pro Gln Val Thr Gly Leu Ala Glu Met Met Asp Tyr Pro Gly Val
180 185 190
Ile Ser Gly Gln Asn Ala Leu Leu Asp Lys Leu Asp Ala Phe Arg His
195 200 205
Leu Thr Leu Asp Gly His Cys Pro Gly Leu Gly Gly Lys Glu Leu Asn
210 215 220
Ala Tyr Ile Thr Ala Gly Ile Glu Asn Cys His Glu Ser Tyr Gln Leu
225 230 235 240
Glu Glu Gly Arg Arg Lys Leu Gln Leu Gly Met Ser Leu Met Ile Arg
245 250 255
Glu Gly Ser Ala Ala Arg Asn Leu Asn Ala Leu Ala Pro Leu Ile Asn
260 265 270
Glu Phe Asn Ser Pro Gln Cys Met Leu Cys Thr Asp Asp Arg Asn Pro
275 280 285
Trp Glu Ile Ala His Glu Gly His Ile Asp Ala Leu Ile Arg Arg Leu
290 295 300
Ile Glu Gln His Asn Val Pro Leu His Val Ala Tyr Arg Val Ala Ser
305 310 315 320
Trp Ser Thr Ala Arg His Phe Gly Leu Asn His Leu Gly Leu Leu Ala
325 330 335
Pro Gly Lys Gln Ala Asp Ile Val Leu Leu Ser Asp Ala Arg Lys Val
340 345 350
Thr Val Gln Gln Val Leu Val Lys Gly Glu Pro Ile Asp Ala Gln Thr
355 360 365
Leu Gln Ala Glu Glu Ser Ala Arg Leu Ala Gln Ser Ala Pro Pro Tyr

370		375		380
Gly Asn Thr Ile Ala Arg	Gln Pro Val Ser	Ala Ser Asp Phe Ala Leu		
385		390		400
Gln Phe Thr Pro Gly Lys Arg Tyr Arg	Val Ile Asp Val Ile His Asn			
	405		410	415
Glu Leu Ile Thr His Ser His Ser	Ser Val Tyr Ser Glu Asn Gly Phe			
	420		425	430
Asp Arg Asp Asp Val Ser Phe Ile Ala Val Leu Glu Arg Tyr Gly Gln			445	
	435		440	
Arg Leu Ala Pro Ala Cys Gly Leu Leu Gly Gly Phe Gly Leu Asn Glu			460	
	450		455	
Gly Ala Leu Ala Ala Thr Val Ser His Asp Ser His Asn Ile Val Val			475	
465		470		480
Ile Gly Arg Ser Ala Glu Glu Met Ala Leu Ala Val Asn Gln Val Ile			490	
	485		495	
Gln Asp Gly Gly Gly Leu Cys Val Val Arg Asn Gly Gln Val Gln Ser			510	
	500		505	
His Leu Pro Leu Pro Ile Ala Gly Leu Met Ser Thr Asp Thr Ala Gln			525	
	515		520	
Ser Leu Ala Glu Gln Ile Asp Ala Leu Lys Ala Ala Ala Arg Glu Cys			540	
	530		535	
Gly Pro Leu Pro Asp Glu Pro Phe Ile Gln Met Ala Phe Leu Ser Leu			555	
545		550		560
Pro Val Ile Pro Ala Leu Lys Leu Thr Ser Gln Gly Leu Phe Asp Gly			575	
	565		570	
Glu Lys Phe Ala Phe Thr Thr Leu Glu Val Thr Glu			585	
	580			

<210> 255
 <211> 408
 <212> PRT
 <213> E. Coli

<400> 255
Met Ala Tyr Cys Asn Pro Gly Leu Glu Ser Arg Pro Asn Lys Arg Asn
1 5 10 15
Ala Leu Arg Arg His Val Val Thr Gly Ile Gly Met Lys Ile Val Ile
20 25 30
Ala Pro Asp Ser Tyr Lys Glu Ser Leu Ser Ala Ser Glu Val Ala Gln
35 40 45
Ala Ile Glu Lys Gly Phe Arg Glu Ile Phe Pro Asp Ala Gln Tyr Val
50 55 60
Ser Val Pro Val Ala Asp Gly Gly Glu Gly Thr Val Glu Ala Met Ile
65 70 75 80
Ala Ala Thr Gln Gly Ala Glu Arg His Ala Trp Val Thr Gly Pro Leu
85 90 95
Gly Glu Lys Val Asn Ala Ser Trp Gly Ile Ser Gly Asp Gly Lys Thr
100 105 110
Ala Phe Ile Glu Met Ala Ala Ala Ser Gly Leu Glu Leu Val Pro Ala
115 120 125
Glu Lys Arg Asp Pro Leu Val Thr Thr Ser Arg Gly Thr Gly Glu Leu
130 135 140
Ile Leu Gln Ala Leu Glu Ser Gly Ala Thr Asn Ile Ile Ile Gly Ile
145 150 155 160
Gly Gly Ser Ala Thr Asn Asp Gly Gly Ala Gly Met Val Gln Ala Leu
165 170 175

Gly	Ala	Lys	Leu	Cys	Asp	Ala	Asn	Gly	Asn	Glu	Ile	Gly	Phe	Gly	Gly	
			180					185					190			
Gly	Ser	Leu	Asn	Thr	Leu	Asn	Asp	Ile	Asp	Ile	Ser	Gly	Leu	Asp	Pro	
		195					200					205				
Arg	Leu	Lys	Asp	Cys	Val	Ile	Arg	Val	Ala	Cys	Asp	Val	Thr	Asn	Pro	
	210					215					220					
Leu	Val	Gly	Asp	Asn	Gly	Ala	Ser	Arg	Ile	Phe	Gly	Pro	Gln	Lys	Gly	
	225				230					235					240	
Ala	Ser	Glu	Ala	Met	Ile	Val	Glu	Leu	Asp	Asn	Asn	Leu	Ser	His	Tyr	
				245					250					255		
Ala	Glu	Val	Ile	Lys	Lys	Ala	Leu	His	Val	Asp	Val	Lys	Asp	Val	Pro	
			260					265					270			
Gly	Ala	Gly	Ala	Ala	Gly	Gly	Met	Gly	Ala	Ala	Leu	Met	Ala	Phe	Leu	
		275					280					285				
Gly	Ala	Glu	Leu	Lys	Ser	Gly	Ile	Glu	Ile	Val	Thr	Thr	Ala	Leu	Asn	
	290					295					300					
Leu	Glu	Glu	His	Ile	His	Asp	Cys	Thr	Leu	Val	Ile	Thr	Gly	Glu	Gly	
	305				310					315					320	
Arg	Ile	Asp	Ser	Gln	Ser	Ile	His	Gly	Lys	Val	Pro	Ile	Gly	Val	Ala	
				325					330					335		
Asn	Val	Ala	Lys	Lys	Tyr	His	Lys	Pro	Val	Ile	Gly	Ile	Ala	Gly	Ser	
			340					345					350			
Leu	Thr	Asp	Asp	Val	Gly	Val	Val	His	Gln	His	Gly	Ile	Asp	Ala	Val	
		355					360					365				
Phe	Ser	Val	Leu	Thr	Ser	Ile	Gly	Thr	Leu	Asp	Glu	Ala	Phe	Arg	Gly	
	370					375					380					
Ala	Tyr	Asp	Asn	Ile	Cys	Arg	Ala	Ser	Arg	Asn	Ile	Ala	Ala	Thr	Leu	
	385				390					395					400	
Ala	Ile	Gly	Met	Arg	Asn	Ala	Gly									
				405												

<210> 256
 <211> 299
 <212> PRT
 <213> E. Coli

<400> 256

Met	Ile	Asp	Met	Thr	Met	Lys	Val	Gly	Phe	Ile	Gly	Leu	Gly	Ile	Met	
1				5					10					15		
Gly	Lys	Pro	Met	Ser	Lys	Asn	Leu	Leu	Lys	Ala	Gly	Tyr	Ser	Leu	Val	
			20					25					30			
Val	Ala	Asp	Arg	Asn	Pro	Glu	Ala	Ile	Ala	Asp	Val	Ile	Ala	Ala	Gly	
		35					40					45				
Ala	Glu	Thr	Ala	Ser	Thr	Ala	Lys	Ala	Ile	Ala	Glu	Gln	Cys	Asp	Val	
	50					55					60					
Ile	Ile	Thr	Met	Leu	Pro	Asn	Ser	Pro	His	Val	Lys	Glu	Val	Ala	Leu	
	65				70					75					80	
Gly	Glu	Asn	Gly	Ile	Ile	Glu	Gly	Ala	Lys	Pro	Gly	Thr	Val	Leu	Ile	
			85					90						95		
Asp	Met	Ser	Ser	Ile	Ala	Pro	Leu	Ala	Ser	Arg	Glu	Ile	Ser	Glu	Ala	
			100					105					110			
Leu	Lys	Ala	Lys	Gly	Ile	Asp	Met	Leu	Asp	Ala	Pro	Val	Ser	Gly	Gly	
		115					120					125				
Glu	Pro	Lys	Ala	Ile	Asp	Gly	Thr	Leu	Ser	Val	Met	Val	Gly	Gly	Asp	
	130					135					140					
Lys	Ala	Ile	Phe	Asp	Lys	Tyr	Tyr	Asp	Leu	Met	Lys	Ala	Met	Ala	Gly	

145					150				155				160
Ser	Val	Val	His	Thr	Gly	Glu	Ile	Gly	Ala	Gly	Asn	Val	Thr
				165					170				175
Ala	Asn	Gln	Val	Ile	Val	Ala	Leu	Asn	Ile	Ala	Ala	Met	Ser
			180					185				190	
Leu	Thr	Leu	Ala	Thr	Lys	Ala	Gly	Val	Asn	Pro	Asp	Leu	Val
		195					200					205	
Ala	Ile	Arg	Gly	Gly	Leu	Ala	Gly	Ser	Thr	Val	Leu	Asp	Ala
	210					215					220		
Pro	Met	Val	Met	Asp	Arg	Asn	Phe	Lys	Pro	Gly	Phe	Arg	Ile
225				230						235			240
His	Ile	Lys	Asp	Leu	Ala	Asn	Ala	Leu	Asp	Thr	Ser	His	Gly
			245						250				255
Ala	Gln	Leu	Pro	Leu	Thr	Ala	Ala	Val	Met	Glu	Met	Met	Gln
		260					265						270
Arg	Ala	Asp	Gly	Leu	Gly	Thr	Ala	Asp	His	Ser	Ala	Leu	Ala
		275				280						285	
Tyr	Glu	Lys	Leu	Ala	Lys	Val	Glu	Val	Thr	Arg			
	290					295							

<210> 257

<211> 256

<212> PRT

<213> E. Coli

<400> 257

Met	Asn	Asn	Asp	Val	Phe	Pro	Asn	Lys	Phe	Lys	Ala	Ala	Leu	Ala	Ala
1				5					10					15	
Lys	Gln	Val	Gln	Ile	Gly	Cys	Trp	Ser	Ala	Leu	Ser	Asn	Pro	Ile	Ser
			20					25					30		
Thr	Glu	Val	Leu	Gly	Leu	Ala	Gly	Phe	Asp	Trp	Leu	Val	Leu	Asp	Gly
		35					40					45			
Glu	His	Ala	Pro	Asn	Asp	Ile	Ser	Thr	Phe	Ile	Pro	Gln	Leu	Met	Ala
	50				55					60					
Leu	Lys	Gly	Ser	Ala	Ser	Ala	Pro	Val	Val	Arg	Val	Pro	Thr	Asn	Glu
65				70					75					80	
Pro	Val	Ile	Ile	Lys	Arg	Leu	Leu	Asp	Ile	Gly	Phe	Tyr	Asn	Phe	Leu
			85					90					95		
Ile	Pro	Phe	Val	Glu	Thr	Lys	Glu	Glu	Ala	Glu	Leu	Ala	Val	Ala	Ser
		100					105						110		
Thr	Arg	Tyr	Pro	Pro	Glu	Gly	Ile	Arg	Gly	Val	Ser	Val	Ser	His	Arg
	115					120						125			
Ala	Asn	Met	Phe	Gly	Thr	Val	Ala	Asp	Tyr	Phe	Ala	Gln	Ser	Asn	Lys
	130				135					140					
Asn	Ile	Thr	Ile	Leu	Val	Gln	Ile	Glu	Ser	Gln	Gln	Gly	Val	Asp	Asn
145				150					155					160	
Val	Asp	Ala	Ile	Ala	Ala	Thr	Glu	Gly	Val	Asp	Gly	Ile	Phe	Val	Gly
		165					170							175	
Pro	Ser	Asp	Leu	Ala	Ala	Ala	Leu	Gly	His	Leu	Gly	Asn	Ala	Ser	His
		180					185					190			
Pro	Asp	Val	Gln	Lys	Ala	Ile	Gln	His	Ile	Phe	Asn	Arg	Ala	Ser	Ala
	195					200						205			
His	Gly	Lys	Pro	Ser	Gly	Ile	Leu	Ala	Pro	Val	Glu	Ala	Asp	Ala	Arg
	210				215					220					
Arg	Tyr	Leu	Glu	Trp	Gly	Ala	Thr	Phe	Val	Ala	Val	Gly	Ser	Asp	Leu

225		230		235		240									
Gly	Val	Phe	Arg	Ser	Ala	Thr	Gln	Lys	Leu	Ala	Asp	Thr	Phe	Lys	Lys
				245					250					255	

<210> 258
 <211> 444
 <212> PRT
 <213> E. Coli

<400> 258															
Met	Ile	Leu	Asp	Thr	Val	Asp	Glu	Lys	Lys	Lys	Gly	Val	His	Thr	Arg
1				5					10					15	
Tyr	Leu	Ile	Leu	Leu	Ile	Ile	Phe	Ile	Val	Thr	Ala	Val	Asn	Tyr	Ala
			20					25					30		
Asp	Arg	Ala	Thr	Leu	Ser	Ile	Ala	Gly	Thr	Glu	Val	Ala	Lys	Glu	Leu
		35					40					45			
Gln	Leu	Ser	Ala	Val	Ser	Met	Gly	Tyr	Ile	Phe	Ser	Ala	Phe	Gly	Trp
	50					55					60				
Ala	Tyr	Leu	Leu	Met	Gln	Ile	Pro	Gly	Gly	Trp	Leu	Leu	Asp	Lys	Phe
65				70					75					80	
Gly	Ser	Lys	Lys	Val	Tyr	Thr	Tyr	Ser	Leu	Phe	Phe	Trp	Ser	Leu	Phe
			85					90					95		
Thr	Phe	Leu	Gln	Gly	Phe	Val	Asp	Met	Phe	Pro	Leu	Ala	Trp	Ala	Gly
			100					105					110		
Ile	Ser	Met	Phe	Phe	Met	Arg	Phe	Met	Leu	Gly	Phe	Ser	Glu	Ala	Pro
		115					120					125			
Ser	Phe	Pro	Ala	Asn	Ala	Arg	Ile	Val	Ala	Ala	Trp	Phe	Pro	Thr	Lys
	130					135					140				
Glu	Arg	Gly	Thr	Ala	Ser	Ala	Ile	Phe	Asn	Ser	Ala	Gln	Tyr	Phe	Ser
145				150					155					160	
Leu	Ala	Leu	Phe	Ser	Pro	Leu	Leu	Gly	Trp	Leu	Thr	Phe	Ala	Trp	Gly
			165					170					175		
Trp	Glu	His	Val	Phe	Thr	Val	Met	Gly	Val	Ile	Gly	Phe	Val	Leu	Thr
			180					185					190		
Ala	Leu	Trp	Ile	Lys	Leu	Ile	His	Asn	Pro	Thr	Asp	His	Pro	Arg	Met
	195						200				205				
Ser	Ala	Glu	Glu	Leu	Lys	Phe	Ile	Ser	Glu	Asn	Gly	Ala	Val	Val	Asp
	210				215					220					
Met	Asp	His	Lys	Lys	Pro	Gly	Ser	Ala	Ala	Ala	Ser	Gly	Pro	Lys	Leu
225					230				235					240	
His	Tyr	Ile	Lys	Gln	Leu	Leu	Ser	Asn	Arg	Met	Met	Leu	Gly	Val	Phe
			245					250					255		
Phe	Gly	Gln	Tyr	Phe	Ile	Asn	Thr	Ile	Thr	Trp	Phe	Phe	Leu	Thr	Trp
		260					265						270		
Phe	Pro	Ile	Tyr	Leu	Val	Gln	Glu	Lys	Gly	Met	Ser	Ile	Leu	Lys	Val
	275					280					285				
Gly	Leu	Val	Ala	Ser	Ile	Pro	Ala	Leu	Cys	Gly	Phe	Ala	Gly	Gly	Val
	290				295					300					
Leu	Gly	Gly	Val	Phe	Ser	Asp	Tyr	Leu	Ile	Lys	Arg	Gly	Leu	Ser	Leu
305				310					315					320	
Thr	Leu	Ala	Arg	Lys	Leu	Pro	Ile	Val	Leu	Gly	Met	Leu	Leu	Ala	Ser
			325					330					335		
Thr	Ile	Ile	Leu	Cys	Asn	Tyr	Thr	Asn	Asn	Thr	Thr	Leu	Val	Val	Met
	340						345					350			
Leu	Met	Ala	Leu	Ala	Phe	Phe	Gly	Lys	Gly	Phe	Gly	Ala	Leu	Gly	Trp
	355						360					365			

Pro	Val	Ile	Ser	Asp	Thr	Ala	Pro	Lys	Glu	Ile	Val	Gly	Leu	Cys	Gly
370						375					380				
Gly	Val	Phe	Asn	Val	Phe	Gly	Asn	Val	Ala	Ser	Ile	Val	Thr	Pro	Leu
385						390				395					400
Val	Ile	Gly	Tyr	Leu	Val	Ser	Glu	Leu	His	Ser	Phe	Asn	Ala	Ala	Leu
				405					410					415	
Val	Phe	Val	Gly	Cys	Ser	Ala	Leu	Met	Ala	Met	Val	Cys	Tyr	Leu	Phe
			420					425					430		
Val	Val	Gly	Asp	Ile	Lys	Arg	Met	Glu	Leu	Gln	Lys				
435							440								

<210> 259
 <211> 511
 <212> PRT
 <213> E. Coli

<400> 259															
Met	Gln	Thr	Ser	Asp	Thr	Arg	Ala	Leu	Pro	Leu	Leu	Cys	Ala	Arg	Ser
1				5					10					15	
Val	Tyr	Lys	Gln	Tyr	Ser	Gly	Val	Asn	Val	Leu	Lys	Gly	Ile	Asp	Phe
		20						25					30		
Thr	Leu	His	Gln	Gly	Glu	Val	His	Ala	Leu	Leu	Gly	Gly	Asn	Gly	Ala
		35					40					45			
Gly	Lys	Ser	Thr	Leu	Met	Lys	Ile	Ile	Ala	Gly	Ile	Thr	Pro	Ala	Asp
	50					55					60				
Ser	Gly	Thr	Leu	Glu	Ile	Glu	Gly	Asn	Asn	Tyr	Val	Arg	Leu	Thr	Pro
65				70						75					80
Val	His	Ala	His	Gln	Leu	Gly	Ile	Tyr	Leu	Val	Pro	Gln	Glu	Pro	Leu
			85						90					95	
Leu	Phe	Pro	Ser	Leu	Ser	Ile	Lys	Glu	Asn	Ile	Leu	Phe	Gly	Leu	Ala
			100					105					110		
Lys	Lys	Gln	Leu	Ser	Met	Gln	Lys	Met	Lys	Asn	Leu	Leu	Ala	Ala	Leu
		115					120					125			
Gly	Cys	Gln	Phe	Asp	Leu	His	Ser	Leu	Ala	Gly	Ser	Leu	Asp	Val	Ala
	130					135					140				
Asp	Arg	Gln	Met	Val	Glu	Ile	Leu	Arg	Gly	Leu	Met	Arg	Asp	Ser	Arg
145				150						155					160
Ile	Leu	Ile	Leu	Asp	Glu	Pro	Thr	Ala	Ser	Leu	Thr	Pro	Ala	Glu	Thr
			165						170					175	
Glu	Arg	Leu	Phe	Ser	Arg	Leu	Gln	Glu	Leu	Leu	Ala	Thr	Gly	Val	Gly
		180						185					190		
Ile	Val	Phe	Ile	Ser	His	Lys	Leu	Pro	Glu	Ile	Arg	Gln	Ile	Ala	Asp
		195					200					205			
Arg	Ile	Ser	Val	Met	Arg	Asp	Gly	Thr	Ile	Ala	Leu	Ser	Gly	Lys	Thr
	210					215					220				
Ser	Glu	Leu	Ser	Thr	Asp	Asp	Ile	Ile	Gln	Ala	Ile	Thr	Pro	Ala	Val
225				230						235					240
Arg	Glu	Lys	Ser	Leu	Ser	Ala	Ser	Gln	Lys	Leu	Trp	Leu	Glu	Leu	Pro
			245						250					255	
Gly	Asn	Arg	Pro	Gln	His	Ala	Ala	Gly	Thr	Pro	Val	Leu	Thr	Leu	Glu
			260					265					270		
Asn	Leu	Thr	Gly	Glu	Gly	Phe	Arg	Asn	Val	Ser	Leu	Thr	Leu	Asn	Ala
	275					280						285			
Gly	Glu	Ile	Leu	Gly	Leu	Ala	Gly	Leu	Val	Gly	Ala	Gly	Arg	Thr	Glu
	290					295				300					
Leu	Ala	Glu	Thr	Leu	Tyr	Gly	Leu	Arg	Thr	Leu	Arg	Gly	Gly	Arg	Ile

305					310					315				320
Met	Leu	Asn	Gly	Lys	Glu	Ile	Asn	Lys	Leu	Ser	Thr	Gly	Glu	Arg
				325					330					335
Leu	Arg	Gly	Leu	Val	Tyr	Leu	Pro	Glu	Asp	Arg	Gln	Ser	Ser	Gly
			340					345					350	
Asn	Leu	Asp	Ala	Ser	Leu	Ala	Trp	Asn	Val	Cys	Ala	Leu	Thr	His
		355					360					365		Asn
Leu	Arg	Gly	Phe	Trp	Ala	Lys	Thr	Ala	Lys	Asp	Asn	Ala	Thr	Leu
	370					375					380			Glu
Arg	Tyr	Arg	Arg	Ala	Leu	Asn	Ile	Lys	Phe	Asn	Gln	Pro	Glu	Gln
385					390					395				400
Ala	Arg	Thr	Leu	Ser	Gly	Gly	Asn	Gln	Gln	Lys	Ile	Leu	Ile	Ala
				405					410					415
Cys	Leu	Glu	Ala	Ser	Pro	Gln	Val	Leu	Ile	Val	Asp	Glu	Pro	Thr
			420					425					430	Arg
Gly	Val	Asp	Val	Ser	Ala	Arg	Asn	Asp	Ile	Tyr	Gln	Leu	Leu	Arg
		435					440					445		Ser
Ile	Ala	Ala	Gln	Asn	Val	Ala	Val	Leu	Leu	Ile	Ser	Ser	Asp	Leu
	450					455					460			Glu
Glu	Ile	Glu	Leu	Met	Ala	Asp	Arg	Val	Tyr	Val	Met	His	Gln	Gly
465					470					475				480
Ile	Thr	His	Ser	Ala	Leu	Thr	Glu	Arg	Asp	Ile	Asn	Val	Glu	Thr
				485					490					495
Met	Arg	Val	Ala	Phe	Gly	Asp	Ser	Gln	Arg	Gln	Glu	Ala	Ser	Cys
			500					505					510	

<210> 260

<211> 342

<212> PRT

<213> E. Coli

<400> 260

Met	Leu	Lys	Phe	Ile	Gln	Asn	Asn	Arg	Glu	Ile	Thr	Ala	Leu	Leu	Ala
1				5					10					15	
Val	Val	Leu	Leu	Phe	Val	Leu	Pro	Gly	Phe	Leu	Asp	Arg	Gln	Tyr	Leu
			20					25					30		
Ser	Val	Gln	Thr	Leu	Thr	Met	Val	Tyr	Ser	Ser	Ala	Gln	Ile	Leu	Ile
		35				40						45			
Leu	Leu	Ala	Met	Gly	Ala	Thr	Leu	Val	Met	Leu	Thr	Arg	Asn	Ile	Asp
	50					55					60				
Val	Ser	Val	Gly	Ser	Ile	Thr	Gly	Met	Cys	Ala	Val	Leu	Leu	Gly	Met
65					70				75					80	
Leu	Leu	Asn	Ala	Gly	Tyr	Ser	Leu	Pro	Val	Ala	Cys	Val	Ala	Thr	Leu
				85					90					95	
Leu	Leu	Gly	Leu	Leu	Ala	Gly	Phe	Phe	Asn	Gly	Val	Leu	Val	Ala	Trp
		100						105					110		
Leu	Lys	Ile	Pro	Ala	Ile	Val	Ala	Thr	Leu	Gly	Thr	Leu	Gly	Leu	Tyr
		115					120					125			
Arg	Gly	Ile	Met	Leu	Leu	Trp	Thr	Gly	Gly	Lys	Trp	Ile	Glu	Gly	Leu
	130					135					140				
Pro	Ala	Glu	Leu	Lys	Gln	Leu	Ser	Ala	Pro	Leu	Leu	Leu	Gly	Val	Ser
145					150					155				160	
Ala	Ile	Gly	Trp	Leu	Thr	Ile	Ile	Leu	Val	Ala	Phe	Met	Ala	Trp	Leu
				165					170					175	
Leu	Ala	Lys	Thr	Ala	Phe	Gly	Arg	Ser	Phe	Tyr	Ala	Thr	Gly	Asp	Asn
			180					185						190	

Leu	Gln	Gly	Ala	Arg	Gln	Leu	Gly	Val	Arg	Thr	Glu	Ala	Ile	Arg	Ile
	195						200					205			
Val	Ala	Phe	Ser	Leu	Asn	Gly	Cys	Met	Ala	Ala	Leu	Ala	Gly	Ile	Val
	210					215					220				
Phe	Ala	Ser	Gln	Ile	Gly	Phe	Ile	Pro	Asn	Gln	Thr	Gly	Thr	Gly	Leu
225					230					235					240
Glu	Met	Lys	Ala	Ile	Ala	Ala	Cys	Val	Leu	Gly	Gly	Ile	Ser	Leu	Leu
			245						250					255	
Gly	Gly	Ser	Gly	Ala	Ile	Ile	Gly	Ala	Val	Leu	Gly	Ala	Trp	Phe	Leu
			260					265					270		
Thr	Gln	Ile	Asp	Ser	Val	Leu	Val	Leu	Leu	Arg	Ile	Pro	Ala	Trp	Trp
	275						280					285			
Asn	Asp	Phe	Ile	Ala	Gly	Leu	Val	Leu	Leu	Ala	Val	Leu	Val	Phe	Asp
	290					295					300				
Gly	Arg	Leu	Arg	Cys	Ala	Leu	Glu	Arg	Asn	Leu	Arg	Arg	Gln	Lys	Tyr
305					310					315					320
Ala	Arg	Phe	Met	Thr	Pro	Pro	Pro	Ser	Val	Lys	Pro	Ala	Ser	Ser	Gly
			325						330					335	
Lys	Lys	Arg	Glu	Ala	Ala										
			340												

<210> 261
 <211> 330
 <212> PRT
 <213> E. Coli

<400> 261

Met	Arg	Ile	Arg	Tyr	Gly	Trp	Glu	Leu	Ala	Leu	Ala	Ala	Leu	Leu	Val
1				5					10					15	
Ile	Glu	Ile	Val	Ala	Phe	Gly	Ala	Ile	Asn	Pro	Arg	Met	Leu	Asp	Leu
			20					25					30		
Asn	Met	Leu	Leu	Phe	Ser	Thr	Ser	Asp	Phe	Ile	Cys	Ile	Gly	Ile	Val
		35					40					45			
Ala	Leu	Pro	Leu	Thr	Met	Val	Ile	Val	Ser	Gly	Gly	Ile	Asp	Ile	Ser
		50				55					60				
Phe	Gly	Ser	Thr	Ile	Gly	Leu	Cys	Ala	Ile	Ala	Leu	Gly	Val	Leu	Phe
65					70					75					80
Gln	Ser	Gly	Val	Pro	Met	Pro	Leu	Ala	Ile	Leu	Leu	Thr	Leu	Leu	Leu
				85					90					95	
Gly	Ala	Leu	Cys	Gly	Leu	Ile	Asn	Ala	Gly	Leu	Ile	Ile	Tyr	Thr	Lys
			100					105					110		
Val	Asn	Pro	Leu	Val	Ile	Thr	Leu	Gly	Thr	Leu	Tyr	Leu	Phe	Ala	Gly
		115					120					125			
Ser	Ala	Leu	Leu	Leu	Ser	Gly	Met	Ala	Gly	Ala	Thr	Gly	Tyr	Glu	Gly
		130				135					140				
Ile	Gly	Gly	Phe	Pro	Met	Ala	Phe	Thr	Asp	Phe	Ala	Asn	Leu	Asp	Val
145					150					155					160
Leu	Gly	Leu	Pro	Val	Pro	Leu	Ile	Ile	Phe	Leu	Ile	Cys	Leu	Leu	Val
				165					170					175	
Phe	Trp	Leu	Trp	Leu	His	Lys	Thr	His	Ala	Gly	Arg	Asn	Val	Phe	Leu
			180					185					190		
Ile	Gly	Gln	Ser	Pro	Arg	Val	Ala	Leu	Tyr	Ser	Ala	Ile	Pro	Val	Asn
		195					200					205			
Arg	Thr	Leu	Cys	Ala	Leu	Tyr	Ala	Met	Thr	Gly	Leu	Ala	Ser	Ala	Val
	210					215					220				
Ala	Ala	Val	Leu	Leu	Val	Ser	Tyr	Phe	Gly	Ser	Ala	Arg	Ser	Asp	Leu
225					230					235					240

Gly	Ala	Ser	Phe	Leu	Met	Pro	Ala	Ile	Thr	Ala	Val	Val	Leu	Gly	Gly
				245					250					255	
Ala	Asn	Ile	Tyr	Gly	Gly	Ser	Gly	Ser	Ile	Ile	Gly	Thr	Ala	Ile	Ala
			260					265					270		
Val	Leu	Leu	Val	Gly	Tyr	Leu	Gln	Gln	Gly	Leu	Gln	Met	Ala	Gly	Val
		275					280					285			
Pro	Asn	Gln	Val	Ser	Ser	Ala	Leu	Ser	Gly	Ala	Leu	Leu	Ile	Val	Val
	290					295					300				
Val	Val	Gly	Arg	Ser	Val	Ser	Leu	His	Arg	Gln	Gln	Ile	Lys	Glu	Trp
305					310					315					320
Leu	Ala	Arg	Arg	Ala	Asn	Asn	Pro	Leu	Pro						
				325					330						

<210> 262
 <211> 340
 <212> PRT
 <213> E. Coli

<400> 262

Met	Thr	Leu	His	Arg	Phe	Lys	Lys	Ile	Ala	Leu	Leu	Ser	Ala	Leu	Gly
1				5					10					15	
Ile	Ala	Ala	Ile	Ser	Met	Asn	Val	Gln	Ala	Ala	Glu	Arg	Ile	Ala	Phe
			20					25					30		
Ile	Pro	Lys	Leu	Val	Gly	Val	Gly	Phe	Phe	Thr	Ser	Gly	Gly	Asn	Gly
		35					40					45			
Ala	Gln	Gln	Ala	Gly	Lys	Glu	Leu	Gly	Val	Asp	Val	Thr	Tyr	Asp	Gly
	50					55				60					
Pro	Thr	Glu	Pro	Ser	Val	Ser	Gly	Gln	Val	Gln	Leu	Ile	Asn	Asn	Phe
65					70					75					80
Val	Asn	Gln	Gly	Tyr	Asn	Ala	Ile	Ile	Val	Ser	Ala	Val	Ser	Pro	Asp
				85					90					95	
Gly	Leu	Cys	Pro	Ala	Leu	Lys	Arg	Ala	Met	Gln	Arg	Gly	Val	Arg	Val
			100					105					110		
Leu	Thr	Trp	Asp	Ser	Asp	Thr	Lys	Pro	Glu	Cys	Arg	Ser	Tyr	Tyr	Ile
		115					120					125			
Asn	Gln	Gly	Thr	Pro	Ala	Gln	Leu	Gly	Gly	Met	Leu	Val	Asp	Met	Ala
	130					135					140				
Ala	Arg	Gln	Val	Asn	Lys	Asp	Lys	Ala	Lys	Val	Ala	Phe	Phe	Tyr	Ser
145					150					155					160
Ser	Pro	Thr	Val	Thr	Asp	Gln	Asn	Gln	Trp	Val	Lys	Glu	Ala	Lys	Ala
				165					170					175	
Lys	Ile	Ala	Lys	Glu	His	Pro	Gly	Trp	Glu	Ile	Val	Thr	Thr	Gln	Phe
			180					185						190	
Gly	Tyr	Asn	Asp	Ala	Thr	Lys	Ser	Leu	Gln	Thr	Ala	Glu	Gly	Ile	Leu
		195					200					205			
Lys	Ala	Tyr	Ser	Asp	Leu	Asp	Ala	Ile	Ile	Ala	Pro	Asp	Ala	Asn	Ala
	210					215					220				
Leu	Pro	Ala	Ala	Ala	Gln	Ala	Ala	Glu	Asn	Leu	Lys	Asn	Asp	Lys	Val
225					230					235					240
Ala	Ile	Val	Gly	Phe	Ser	Thr	Pro	Asn	Val	Met	Arg	Pro	Tyr	Val	Glu
				245					250					255	
Arg	Gly	Thr	Val	Lys	Glu	Phe	Gly	Leu	Trp	Asp	Val	Val	Gln	Gln	Gly
			260					265					270		
Lys	Ile	Ser	Val	Tyr	Val	Ala	Asp	Ala	Leu	Leu	Lys	Lys	Gly	Ser	Met

		275					280				285								
Lys	Thr	Gly	Asp	Lys	Leu	Asp	Ile	Lys	Gly	Val	Gly	Gln	Val	Glu	Val				
	290					295					300								
Ser	Pro	Asn	Ser	Val	Gln	Gly	Tyr	Asp	Tyr	Glu	Ala	Asp	Gly	Asn	Gly				
305					310					315					320				
Ile	Val	Leu	Leu	Pro	Glu	Arg	Val	Ile	Phe	Asn	Lys	Glu	Asn	Ile	Gly				
				325					330					335					
Lys	Tyr	Asp	Phe																
			340																

<210> 263
 <211> 291
 <212> PRT
 <213> E. Coli

Met	Ala	Asp	Leu	Asp	Asp	Ile	Lys	Asp	Gly	Lys	Asp	Phe	Arg	Thr	Asp				
1				5					10					15					
Gln	Pro	Gln	Lys	Asn	Ile	Pro	Phe	Thr	Leu	Lys	Gly	Cys	Gly	Ala	Leu				
			20					25					30						
Asp	Trp	Gly	Met	Gln	Ser	Arg	Leu	Ser	Arg	Ile	Phe	Asn	Pro	Lys	Thr				
		35					40					45							
Gly	Lys	Thr	Val	Met	Leu	Ala	Phe	Asp	His	Gly	Tyr	Phe	Gln	Gly	Pro				
	50					55				60									
Thr	Thr	Gly	Leu	Glu	Arg	Ile	Asp	Ile	Asn	Ile	Ala	Pro	Leu	Phe	Glu				
65				70					75						80				
His	Ala	Asp	Val	Leu	Met	Cys	Thr	Arg	Gly	Ile	Leu	Arg	Ser	Val	Val				
				85					90					95					
Pro	Pro	Ala	Thr	Asn	Arg	Pro	Val	Val	Leu	Arg	Ala	Ser	Gly	Ala	Asn				
			100					105					110						
Ser	Ile	Leu	Ala	Glu	Leu	Ser	Asn	Glu	Ala	Val	Ala	Leu	Ser	Met	Asp				
		115					120					125							
Asp	Ala	Val	Arg	Leu	Asn	Ser	Cys	Ala	Val	Ala	Ala	Gln	Val	Tyr	Ile				
	130					135					140								
Gly	Ser	Glu	Tyr	Glu	His	Gln	Ser	Ile	Lys	Asn	Ile	Ile	Gln	Leu	Val				
145					150					155					160				
Asp	Ala	Gly	Met	Lys	Val	Gly	Met	Pro	Thr	Met	Ala	Val	Thr	Gly	Val				
			165					170						175					
Gly	Lys	Asp	Met	Val	Arg	Asp	Gln	Arg	Tyr	Phe	Ser	Leu	Ala	Thr	Arg				
			180					185					190						
Ile	Ala	Ala	Glu	Met	Gly	Ala	Gln	Ile	Ile	Lys	Thr	Tyr	Tyr	Val	Glu				
		195					200						205						
Lys	Gly	Phe	Glu	Arg	Ile	Val	Ala	Gly	Cys	Pro	Val	Pro	Ile	Val	Ile				
	210					215					220								
Ala	Gly	Gly	Lys	Lys	Leu	Pro	Glu	Arg	Glu	Ala	Leu	Glu	Met	Cys	Trp				
225					230					235					240				
Gln	Ala	Ile	Asp	Gln	Gly	Ala	Ser	Gly	Val	Asp	Met	Gly	Arg	Asn	Ile				
				245					250					255					
Phe	Gln	Ser	Asp	His	Pro	Val	Ala	Met	Met	Lys	Ala	Val	Gln	Ala	Val				
			260					265					270						
Val	His	His	Asn	Glu	Thr	Ala	Asp	Arg	Ala	Tyr	Glu	Leu	Tyr	Leu	Ser				
		275					280						285						
Glu	Lys	Gln																	
	290																		

<210> 264
 <211> 96
 <212> PRT
 <213> E. Coli

<400> 264
 Met His Val Thr Leu Val Glu Ile Asn Val His Glu Asp Lys Val Asp
 1 5 10 15
 Glu Phe Ile Glu Val Phe Arg Gln Asn His Leu Gly Ser Val Gln Glu
 20 25 30
 Glu Gly Asn Leu Arg Phe Asp Val Leu Gln Asp Pro Glu Val Asn Ser
 35 40 45
 Arg Phe Tyr Ile Tyr Glu Ala Tyr Lys Asp Glu Asp Ala Val Ala Phe
 50 55 60
 His Lys Thr Thr Pro His Tyr Lys Thr Cys Val Ala Lys Leu Glu Ser
 65 70 75 80
 Leu Met Thr Gly Pro Arg Lys Lys Arg Leu Phe Asn Gly Leu Met Pro
 85 90 95

<210> 265
 <211> 383
 <212> PRT
 <213> E. Coli

<400> 265
 Met Phe Glu Pro Met Glu Leu Thr Asn Asp Ala Val Ile Lys Val Ile
 1 5 10 15
 Gly Val Gly Gly Gly Gly Gly Asn Ala Val Glu His Met Val Arg Glu
 20 25 30
 Arg Ile Glu Gly Val Glu Phe Phe Ala Val Asn Thr Asp Ala Gln Ala
 35 40 45
 Leu Arg Lys Thr Ala Val Gly Gln Thr Ile Gln Ile Gly Ser Gly Ile
 50 55 60
 Thr Lys Gly Leu Gly Ala Gly Ala Asn Pro Glu Val Gly Arg Asn Ala
 65 70 75 80
 Ala Asp Glu Asp Arg Asp Ala Leu Arg Ala Ala Leu Glu Gly Ala Asp
 85 90 95
 Met Val Phe Ile Ala Ala Gly Met Gly Gly Gly Thr Gly Thr Gly Ala
 100 105 110
 Ala Pro Val Val Ala Glu Val Ala Lys Asp Leu Gly Ile Leu Thr Val
 115 120 125
 Ala Val Val Thr Lys Pro Phe Asn Phe Glu Gly Lys Lys Arg Met Ala
 130 135 140
 Phe Ala Glu Gln Gly Ile Thr Glu Leu Ser Lys His Val Asp Ser Leu
 145 150 155 160
 Ile Thr Ile Pro Asn Asp Lys Leu Leu Lys Val Leu Gly Arg Gly Ile
 165 170 175
 Ser Leu Leu Asp Ala Phe Gly Ala Ala Asn Asp Val Leu Lys Gly Ala
 180 185 190
 Val Gln Gly Ile Ala Glu Leu Ile Thr Arg Pro Gly Leu Met Asn Val
 195 200 205
 Asp Phe Ala Asp Val Arg Thr Val Met Ser Glu Met Gly Tyr Ala Met
 210 215 220
 Met Gly Ser Gly Val Ala Ser Gly Glu Asp Arg Ala Glu Glu Ala Ala
 225 230 235 240
 Glu Met Ala Ile Ser Ser Pro Leu Leu Glu Asp Ile Asp Leu Ser Gly

				245					250				255				
Ala	Arg	Gly	Val	Leu	Val	Asn	Ile	Thr	Ala	Gly	Phe	Asp	Leu	Arg	Leu		
			260					265					270				
Asp	Glu	Phe	Glu	Thr	Val	Gly	Asn	Thr	Ile	Arg	Ala	Phe	Ala	Ser	Asp		
		275					280					285					
Asn	Ala	Thr	Val	Val	Ile	Gly	Thr	Ser	Leu	Asp	Pro	Asp	Met	Asn	Asp		
	290					295					300						
Glu	Leu	Arg	Val	Thr	Val	Val	Ala	Thr	Gly	Ile	Gly	Met	Asp	Lys	Arg		
305					310					315					320		
Pro	Glu	Ile	Thr	Leu	Val	Thr	Asn	Lys	Gln	Val	Gln	Gln	Pro	Val	Met		
				325					330						335		
Asp	Arg	Tyr	Gln	Gln	His	Gly	Met	Ala	Pro	Leu	Thr	Gln	Glu	Gln	Lys		
			340					345					350				
Pro	Val	Ala	Lys	Val	Val	Asn	Asp	Asn	Ala	Pro	Gln	Thr	Ala	Lys	Glu		
		355					360					365					
Pro	Asp	Tyr	Leu	Asp	Ile	Pro	Ala	Phe	Leu	Arg	Lys	Gln	Ala	Asp			
	370					375					380						

<210> 266

<211> 1014

<212> PRT

<213> E. Coli

<400> 266

Met	Asp	Val	Ser	Arg	Arg	Gln	Phe	Phe	Lys	Ile	Cys	Ala	Gly	Gly	Met		
1				5					10					15			
Ala	Gly	Thr	Thr	Val	Ala	Ala	Leu	Gly	Phe	Ala	Pro	Lys	Gln	Ala	Leu		
			20					25					30				
Ala	Gln	Ala	Arg	Asn	Tyr	Lys	Leu	Leu	Arg	Ala	Lys	Glu	Ile	Arg	Asn		
		35				40						45					
Thr	Cys	Thr	Tyr	Cys	Ser	Val	Gly	Cys	Gly	Leu	Leu	Met	Tyr	Ser	Leu		
	50				55						60						
Gly	Asp	Gly	Ala	Lys	Asn	Ala	Arg	Glu	Ala	Ile	Tyr	His	Ile	Glu	Gly		
65					70				75					80			
Asp	Pro	Asp	His	Pro	Val	Ser	Arg	Gly	Ala	Leu	Cys	Pro	Lys	Gly	Ala		
			85					90					95				
Gly	Leu	Leu	Asp	Tyr	Val	Asn	Ser	Glu	Asn	Arg	Leu	Arg	Tyr	Pro	Glu		
		100						105					110				
Tyr	Arg	Ala	Pro	Gly	Ser	Asp	Lys	Trp	Gln	Arg	Ile	Ser	Trp	Glu	Glu		
		115				120						125					
Ala	Phe	Ser	Arg	Ile	Ala	Lys	Leu	Met	Lys	Ala	Asp	Arg	Asp	Ala	Asn		
	130					135					140						
Phe	Ile	Glu	Lys	Asn	Glu	Gln	Gly	Val	Thr	Val	Asn	Arg	Trp	Leu	Ser		
145				150					155					160			
Thr	Gly	Met	Leu	Cys	Ala	Ser	Gly	Ala	Ser	Asn	Glu	Thr	Gly	Met	Leu		
			165					170						175			
Thr	Gln	Lys	Phe	Ala	Arg	Ser	Leu	Gly	Met	Leu	Ala	Val	Asp	Asn	Gln		
		180						185					190				
Ala	Arg	Val	His	Gly	Pro	Thr	Val	Ala	Ser	Leu	Ala	Pro	Thr	Phe	Gly		
		195				200						205					
Arg	Gly	Ala	Met	Thr	Asn	His	Trp	Val	Asp	Ile	Lys	Asn	Ala	Asn	Val		
	210					215					220						
Val	Met	Val	Met	Gly	Gly	Asn	Ala	Ala	Glu	Ala	His	Pro	Val	Gly	Phe		
225				230					235					240			
Arg	Trp	Ala	Met	Glu	Ala	Lys	Asn	Asn	Asn	Asp	Ala	Thr	Leu	Ile	Val		
				245					250					255			

Val	Asp	Pro	Arg	Phe	Thr	Arg	Thr	Ala	Ser	Val	Ala	Asp	Ile	Tyr	Ala		
			260					265					270				
Pro	Ile	Arg	Ser	Gly	Thr	Asp	Ile	Thr	Phe	Leu	Ser	Gly	Val	Leu	Arg		
		275					280					285					
Tyr	Leu	Ile	Glu	Asn	Asn	Lys	Ile	Asn	Ala	Glu	Tyr	Val	Lys	His	Tyr		
	290					295					300						
Thr	Asn	Ala	Ser	Leu	Leu	Val	Arg	Asp	Asp	Phe	Ala	Phe	Glu	Asp	Gly		
305					310					315					320		
Leu	Phe	Ser	Gly	Tyr	Asp	Ala	Glu	Lys	Arg	Gln	Tyr	Asp	Lys	Ser	Ser		
			325						330					335			
Trp	Asn	Tyr	Gln	Leu	Asp	Glu	Asn	Gly	Tyr	Ala	Lys	Arg	Asp	Glu	Thr		
			340					345					350				
Leu	Thr	His	Pro	Arg	Cys	Val	Trp	Asn	Leu	Leu	Lys	Glu	His	Val	Ser		
		355					360					365					
Arg	Tyr	Thr	Pro	Asp	Val	Val	Glu	Asn	Ile	Cys	Gly	Thr	Pro	Lys	Ala		
	370					375					380						
Asp	Phe	Leu	Lys	Val	Cys	Glu	Val	Leu	Ala	Ser	Thr	Ser	Ala	Pro	Asp		
385					390					395					400		
Arg	Thr	Thr	Thr	Phe	Leu	Tyr	Ala	Leu	Gly	Trp	Thr	Gln	His	Thr	Val		
				405					410					415			
Gly	Ala	Gln	Asn	Ile	Arg	Thr	Met	Ala	Met	Ile	Gln	Leu	Leu	Leu	Gly		
			420					425					430				
Asn	Met	Gly	Met	Ala	Gly	Gly	Gly	Val	Asn	Ala	Leu	Arg	Gly	His	Ser		
		435					440					445					
Asn	Ile	Gln	Gly	Leu	Thr	Asp	Leu	Gly	Leu	Leu	Ser	Thr	Ser	Leu	Pro		
	450					455					460						
Gly	Tyr	Leu	Thr	Leu	Pro	Ser	Glu	Lys	Gln	Val	Asp	Leu	Gln	Ser	Tyr		
465					470					475					480		
Leu	Glu	Ala	Asn	Thr	Pro	Lys	Ala	Thr	Leu	Ala	Asp	Gln	Val	Asn	Tyr		
				485					490					495			
Trp	Ser	Asn	Tyr	Pro	Lys	Phe	Phe	Val	Ser	Leu	Met	Lys	Ser	Phe	Tyr		
		500						505					510				
Gly	Asp	Ala	Ala	Gln	Lys	Glu	Asn	Asn	Trp	Gly	Tyr	Asp	Trp	Leu	Pro		
		515					520					525					
Lys	Trp	Asp	Gln	Thr	Tyr	Asp	Val	Ile	Lys	Tyr	Phe	Asn	Met	Met	Asp		
	530					535					540						
Glu	Gly	Lys	Val	Thr	Gly	Tyr	Phe	Cys	Gln	Gly	Phe	Asn	Pro	Val	Ala		
545					550					555					560		
Ser	Phe	Pro	Asp	Lys	Asn	Lys	Val	Val	Ser	Cys	Leu	Ser	Lys	Leu	Lys		
				565					570					575			
Tyr	Met	Val	Val	Ile	Asp	Pro	Leu	Val	Thr	Glu	Thr	Ser	Thr	Phe	Trp		
		580						585						590			
Gln	Asn	His	Gly	Glu	Ser	Asn	Asp	Val	Asp	Pro	Ala	Ser	Ile	Gln	Thr		
		595					600					605					
Glu	Val	Phe	Arg	Leu	Pro	Ser	Thr	Cys	Phe	Ala	Glu	Glu	Asp	Gly	Ser		
	610					615					620						
Ile	Ala	Asn	Ser	Gly	Arg	Trp	Leu	Gln	Trp	His	Trp	Lys	Gly	Gln	Asp		
625					630					635					640		
Ala	Pro	Gly	Glu	Ala	Arg	Asn	Asp	Gly	Glu	Ile	Leu	Ala	Gly	Ile	Tyr		
				645					650					655			
His	His	Leu	Arg	Glu	Leu	Tyr	Gln	Ser	Glu	Gly	Gly	Lys	Gly	Val	Glu		
		660						665					670				
Pro	Leu	Met	Lys	Met	Ser	Trp	Asn	Tyr	Lys	Gln	Pro	His	Glu	Pro	Gln		
		675					680					685					
Ser	Asp	Glu	Val	Ala	Lys	Glu	Asn	Asn	Gly	Tyr	Ala	Leu	Glu	Asp	Leu		
	690					695					700						
Tyr	Asp	Ala	Asn	Gly	Val	Leu	Ile	Ala	Lys	Lys	Gly	Gln	Leu	Leu	Ser		

705					710					715				720
Ser	Phe	Ala	His	Leu	Arg	Asp	Asp	Gly	Thr	Thr	Ala	Ser	Ser	Cys
				725					730					735
Ile	Tyr	Thr	Gly	Ser	Trp	Thr	Glu	Gln	Gly	Asn	Gln	Met	Ala	Asn
			740						745				750	
Asp	Asn	Ser	Asp	Pro	Ser	Gly	Leu	Gly	Asn	Thr	Leu	Gly	Trp	Ala
		755					760					765		
Ala	Trp	Pro	Leu	Asn	Arg	Arg	Val	Leu	Tyr	Asn	Arg	Ala	Ser	Ala
	770					775					780			
Ile	Asn	Gly	Lys	Pro	Trp	Asp	Pro	Lys	Arg	Met	Leu	Ile	Gln	Trp
785					790					795				800
Gly	Ser	Lys	Trp	Thr	Gly	Asn	Asp	Ile	Pro	Asp	Phe	Gly	Asn	Ala
				805					810					815
Pro	Gly	Thr	Pro	Thr	Gly	Pro	Phe	Ile	Met	Gln	Pro	Glu	Gly	Met
			820					825					830	
Arg	Leu	Phe	Ala	Ile	Asn	Lys	Met	Ala	Glu	Gly	Pro	Phe	Pro	Glu
	835						840					845		
Tyr	Glu	Pro	Ile	Glu	Thr	Pro	Leu	Gly	Thr	Asn	Pro	Leu	His	Pro
	850					855					860			
Val	Val	Ser	Asn	Pro	Val	Val	Arg	Leu	Tyr	Glu	Gln	Asp	Ala	Leu
865					870					875				880
Met	Gly	Lys	Lys	Glu	Gln	Phe	Pro	Tyr	Val	Gly	Thr	Thr	Tyr	Arg
				885					890					895
Thr	Glu	His	Phe	His	Thr	Trp	Thr	Lys	His	Ala	Leu	Leu	Asn	Ala
			900					905					910	
Ala	Gln	Pro	Glu	Gln	Phe	Val	Glu	Ile	Ser	Glu	Thr	Leu	Ala	Ala
		915					920					925		
Lys	Gly	Ile	Asn	Asn	Gly	Asp	Arg	Val	Thr	Val	Ser	Ser	Lys	Arg
	930					935					940			
Phe	Ile	Arg	Ala	Val	Ala	Val	Val	Thr	Arg	Arg	Leu	Lys	Pro	Leu
945					950				955					960
Val	Asn	Gly	Gln	Gln	Val	Glu	Thr	Val	Gly	Ile	Pro	Ile	His	Trp
				965					970					975
Phe	Glu	Gly	Val	Ala	Arg	Lys	Gly	Tyr	Ile	Ala	Asn	Thr	Leu	Thr
			980					985					990	
Asn	Val	Gly	Asp	Ala	Asn	Ser	Gln	Thr	Pro	Glu	Tyr	Lys	Ala	Phe
	995						1000					1005		
Val	Asn	Ile	Glu	Lys	Ala									
	1010													

<210> 267

<211> 294

<212> PRT

<213> E. Coli

<400> 267

Met	Ala	Met	Glu	Thr	Gln	Asp	Ile	Ile	Lys	Arg	Ser	Ala	Thr	Asn	Ser
1				5					10					15	
Ile	Thr	Pro	Pro	Ser	Gln	Val	Arg	Asp	Tyr	Lys	Ala	Glu	Val	Ala	Lys
			20					25					30		
Leu	Ile	Asp	Val	Ser	Thr	Cys	Ile	Gly	Cys	Lys	Ala	Cys	Gln	Val	Ala
		35					40					45			
Cys	Ser	Glu	Trp	Asn	Asp	Ile	Arg	Asp	Glu	Val	Gly	His	Cys	Val	Gly
	50				55						60				
Val	Tyr	Asp	Asn	Pro	Ala	Asp	Leu	Ser	Ala	Lys	Ser	Trp	Thr	Val	Met
65				70					75					80	
Arg	Phe	Ser	Glu	Thr	Glu	Gln	Asn	Gly	Lys	Leu	Glu	Trp	Leu	Ile	Arg

				85					90					95					
Lys	Asp	Gly	Cys	Met	His	Cys	Glu	Asp	Pro	Gly	Cys	Leu	Lys	Ala	Cys				
			100					105						110					
Pro	Ser	Ala	Gly	Ala	Ile	Ile	Gln	Tyr	Ala	Asn	Gly	Ile	Val	Asp	Phe				
		115					120					125							
Gln	Ser	Glu	Asn	Cys	Ile	Gly	Cys	Gly	Tyr	Cys	Ile	Ala	Gly	Cys	Pro				
		130				135					140								
Phe	Asn	Ile	Pro	Arg	Leu	Asn	Lys	Glu	Asp	Asn	Arg	Val	Tyr	Lys	Cys				
145					150					155					160				
Thr	Leu	Cys	Val	Asp	Arg	Val	Ser	Val	Gly	Gln	Glu	Pro	Ala	Cys	Val				
				165					170						175				
Lys	Thr	Cys	Pro	Thr	Gly	Ala	Ile	His	Phe	Gly	Thr	Lys	Lys	Glu	Met				
			180					185						190					
Leu	Glu	Leu	Ala	Glu	Gln	Arg	Val	Ala	Lys	Leu	Lys	Ala	Arg	Gly	Tyr				
		195					200					205							
Glu	His	Ala	Gly	Val	Tyr	Asn	Pro	Glu	Gly	Val	Gly	Gly	Thr	His	Val				
		210				215					220								
Met	Tyr	Val	Leu	His	His	Ala	Asp	Gln	Pro	Glu	Leu	Tyr	His	Gly	Leu				
225					230					235					240				
Pro	Lys	Asp	Pro	Lys	Ile	Asp	Thr	Ser	Val	Ser	Leu	Trp	Lys	Gly	Ala				
				245				250						255					
Leu	Lys	Pro	Leu	Ala	Ala	Ala	Gly	Phe	Ile	Ala	Thr	Phe	Ala	Gly	Leu				
		260					265						270						
Ile	Phe	His	Tyr	Ile	Gly	Ile	Gly	Pro	Asn	Lys	Glu	Val	Asp	Asp	Asp				
		275					280						285						
Glu	Glu	Asp	His	His	Glu														
		290																	

<210> 268

<211> 217

<212> PRT

<213> E. Coli

<400> 268

Met	Ser	Lys	Ser	Lys	Met	Ile	Val	Arg	Thr	Lys	Phe	Ile	Asp	Arg	Ala				
1				5					10					15					
Cys	His	Trp	Thr	Val	Val	Ile	Cys	Phe	Phe	Leu	Val	Ala	Leu	Ser	Gly				
		20						25					30						
Ile	Ser	Phe	Phe	Pro	Thr	Leu	Gln	Trp	Leu	Thr	Gln	Thr	Phe	Gly					
		35				40					45								
Thr	Pro	Gln	Met	Gly	Arg	Ile	Leu	His	Pro	Phe	Phe	Gly	Ile	Ala	Ile				
		50				55					60								
Phe	Val	Ala	Leu	Met	Phe	Met	Phe	Val	Arg	Phe	Val	His	His	Asn	Ile				
65				70					75					80					
Pro	Asp	Lys	Lys	Asp	Ile	Pro	Trp	Leu	Leu	Asn	Ile	Val	Glu	Val	Leu				
				85				90					95						
Lys	Gly	Asn	Glu	His	Lys	Val	Ala	Asp	Val	Gly	Lys	Tyr	Asn	Ala	Gly				
		100						105					110						
Gln	Lys	Met	Met	Phe	Trp	Ser	Ile	Met	Ser	Met	Ile	Phe	Val	Leu	Leu				
		115				120						125							
Val	Thr	Gly	Val	Ile	Ile	Trp	Arg	Pro	Tyr	Phe	Ala	Gln	Tyr	Phe	Pro				
		130				135					140								
Met	Gln	Val	Val	Arg	Tyr	Ser	Leu	Leu	Ile	His	Ala	Ala	Ala	Gly	Ile				
145				150					155					160					
Ile	Leu	Ile	His	Ala	Ile	Leu	Ile	His	Met	Tyr	Met	Ala	Phe	Trp	Val				
				165				170						175					

Lys Gly Ser Ile Lys Gly Met Ile Glu Gly Lys Val Ser Arg Arg Trp
 180 185 190
 Ala Lys Lys His His Pro Arg Trp Tyr Arg Glu Ile Glu Lys Ala Glu
 195 200 205
 Ala Lys Lys Glu Ser Glu Glu Gly Ile
 210 215

<210> 269
 <211> 86
 <212> PRT
 <213> E. Coli

<400> 269
 Met Ala Leu Leu Ile Thr Lys Lys Cys Ile Asn Cys Asp Met Cys Glu
 1 5 10 15
 Pro Glu Cys Pro Asn Glu Ala Ile Ser Met Gly Asp His Ile Tyr Glu
 20 25 30
 Ile Asn Ser Asp Lys Cys Thr Glu Cys Val Gly His Tyr Glu Thr Pro
 35 40 45
 Thr Cys Gln Lys Val Cys Pro Ile Pro Asn Thr Ile Val Lys Asp Pro
 50 55 60
 Ala His Val Glu Thr Glu Glu Gln Leu Trp Asp Lys Phe Val Leu Met
 65 70 75 80
 His His Ala Asp Lys Ile
 85

<210> 270
 <211> 400
 <212> PRT
 <213> E. Coli

<400> 270
 Met Gln Ser Val Asp Val Ala Ile Val Gly Gly Gly Met Val Gly Leu
 1 5 10 15
 Ala Val Ala Cys Gly Leu Gln Gly Ser Gly Leu Arg Val Ala Val Leu
 20 25 30
 Glu Gln Arg Val Gln Glu Pro Leu Ala Ala Asn Ala Pro Pro Gln Leu
 35 40 45
 Arg Val Ser Ala Ile Asn Ala Ala Ser Glu Lys Leu Leu Thr Arg Leu
 50 55 60
 Gly Val Trp Gln Asp Ile Leu Ser Arg Arg Ala Ser Cys Tyr His Gly
 65 70 75 80
 Met Glu Val Trp Asp Lys Asp Ser Phe Gly His Ile Ser Phe Asp Asp
 85 90 95
 Gln Ser Met Gly Tyr Ser His Leu Gly His Ile Val Glu Asn Ser Val
 100 105 110
 Ile His Tyr Ala Leu Trp Asn Lys Ala His Gln Ser Ser Asp Ile Thr
 115 120 125
 Leu Leu Ala Pro Ala Glu Leu Gln Gln Val Ala Trp Gly Glu Asn Glu
 130 135 140
 Thr Phe Leu Thr Leu Lys Asp Gly Ser Met Leu Thr Ala Arg Leu Val
 145 150 155 160
 Ile Gly Ala Asp Gly Ala Asn Ser Trp Leu Arg Asn Lys Ala Asp Ile
 165 170 175
 Pro Leu Thr Phe Trp Asp Tyr Gln His His Ala Leu Val Ala Thr Ile

Gln	Gln	Glu	Pro	Tyr	Glu	Gln	Leu	Ala	Val	Ile	Ala	Asn	Val	Ala	Thr
			180					185					190		
Ser	Val	Ala	His	Glu	Gly	Arg	Ala	Phe	Glu	Arg	Phe	Thr	Gln	His	Gly
		195					200					205			
Pro	Leu	Ala	Met	Leu	Pro	Met	Ser	Asp	Gly	Arg	Cys	Ser	Leu	Val	Trp
	210					215					220				
Cys	His	Pro	Leu	Glu	Arg	Arg	Glu	Glu	Val	Leu	Ser	Trp	Ser	Asp	Glu
225					230					235					240
Lys	Phe	Cys	Arg	Glu	Leu	Gln	Ser	Ala	Phe	Gly	Trp	Arg	Leu	Gly	Lys
				245					250					255	
Ile	Thr	His	Ala	Gly	Lys	Arg	Ser	Ala	Tyr	Pro	Leu	Ala	Leu	Thr	His
			260					265					270		
Ala	Ala	Arg	Ser	Ile	Thr	His	Arg	Thr	Val	Leu	Val	Gly	Asn	Ala	Ala
		275					280					285			
Gln	Thr	Leu	His	Pro	Ile	Ala	Gly	Gln	Gly	Phe	Asn	Leu	Gly	Met	Arg
	290					295					300				
Asp	Val	Met	Ser	Leu	Ala	Glu	Thr	Leu	Thr	Gln	Ala	Gln	Glu	Arg	Gly
305					310					315					320
Glu	Asp	Met	Gly	Asp	Tyr	Gly	Val	Leu	Cys	Arg	Tyr	Gln	Gln	Arg	Arg
			325						330					335	
Gln	Ser	Asp	Arg	Glu	Ala	Thr	Ile	Gly	Val	Thr	Asp	Ser	Leu	Val	His
			340					345					350		
Leu	Phe	Ala	Asn	Arg	Trp	Ala	Pro	Leu	Val	Val	Gly	Arg	Asn	Ile	Gly
		355					360					365			
Leu	Met	Thr	Met	Glu	Leu	Phe	Thr	Pro	Ala	Arg	Asp	Val	Leu	Ala	Gln
	370					375					380				
Arg	Thr	Leu	Gly	Trp	Val	Ala	Arg								
385					390										

<210> 272

<211> 441

<212> PRT

<213> E. Coli

<400> 272

Met	Ser	Glu	Ile	Ser	Arg	Gln	Glu	Phe	Gln	Arg	Arg	Arg	Gln	Ala	Leu
1				5					10					15	
Val	Glu	Gln	Met	Gln	Pro	Gly	Ser	Ala	Ala	Leu	Ile	Phe	Ala	Ala	Pro
			20					25					30		
Glu	Val	Thr	Arg	Ser	Ala	Asp	Ser	Glu	Tyr	Pro	Tyr	Arg	Gln	Asn	Ser
		35					40					45			
Asp	Phe	Trp	Tyr	Phe	Thr	Gly	Phe	Asn	Glu	Pro	Glu	Ala	Val	Leu	Val
	50					55					60				
Leu	Ile	Lys	Ser	Asp	Asp	Thr	His	Asn	His	Ser	Val	Leu	Phe	Asn	Arg
65					70					75					80
Val	Arg	Asp	Leu	Thr	Ala	Glu	Ile	Trp	Phe	Gly	Arg	Arg	Leu	Gly	Gln
				85					90					95	
Asp	Ala	Ala	Pro	Glu	Lys	Leu	Gly	Val	Asp	Arg	Ala	Leu	Ala	Phe	Ser
			100					105					110		
Glu	Ile	Asn	Gln	Gln	Leu	Tyr	Gln	Leu	Leu	Asn	Gly	Leu	Asp	Val	Val
		115					120					125			
Tyr	His	Ala	Gln	Gly	Glu	Tyr	Ala	Tyr	Ala	Asp	Val	Ile	Val	Asn	Ser
	130					135					140				
Ala	Leu	Glu	Lys	Leu	Arg	Lys	Gly	Ser	Arg	Gln	Asn	Leu	Thr	Ala	Pro
145					150					155					160
Ala	Thr	Met	Ile	Asp	Trp	Arg	Pro	Val	Val	His	Glu	Met	Arg	Leu	Phe

				165					170					175
Lys	Ser	Pro	Glu	Ile	Ala	Val	Leu	Arg	Arg	Ala	Gly	Glu	Ile	Thr
			180				185					190		
Ala	Met	Ala	His	Thr	Arg	Ala	Met	Glu	Lys	Cys	Arg	Pro	Gly	Met
		195					200					205		Phe
Glu	Tyr	His	Leu	Glu	Gly	Glu	Ile	His	His	Glu	Phe	Asn	Arg	His
	210					215					220			Gly
Ala	Arg	Tyr	Pro	Ser	Tyr	Asn	Thr	Ile	Val	Gly	Ser	Gly	Glu	Asn
225					230					235				240
Cys	Ile	Leu	His	Tyr	Thr	Glu	Asn	Glu	Cys	Glu	Met	Arg	Asp	Gly
			245						250				255	Asp
Leu	Val	Leu	Ile	Asp	Ala	Gly	Cys	Glu	Tyr	Lys	Gly	Tyr	Ala	Gly
		260						265					270	Asp
Ile	Thr	Arg	Thr	Phe	Pro	Val	Asn	Gly	Lys	Phe	Thr	Gln	Ala	Gln
		275					280					285		Arg
Glu	Ile	Tyr	Asp	Ile	Val	Leu	Glu	Ser	Leu	Glu	Thr	Ser	Leu	Arg
	290					295					300			Leu
Tyr	Arg	Pro	Gly	Thr	Ser	Ile	Leu	Glu	Val	Thr	Gly	Glu	Val	Val
305					310					315				Arg
Ile	Met	Val	Ser	Gly	Leu	Val	Lys	Leu	Gly	Ile	Leu	Lys	Gly	Asp
			325						330				335	Val
Asp	Glu	Leu	Ile	Ala	Gln	Asn	Ala	His	Arg	Pro	Phe	Phe	Met	His
		340					345					350		Gly
Leu	Ser	His	Trp	Leu	Gly	Leu	Asp	Val	His	Asp	Val	Gly	Val	Tyr
		355					360					365		Gly
Gln	Asp	Arg	Ser	Arg	Ile	Leu	Glu	Pro	Gly	Met	Val	Leu	Thr	Val
	370					375					380			Glu
Pro	Gly	Leu	Tyr	Ile	Ala	Pro	Asp	Ala	Glu	Val	Pro	Glu	Gln	Tyr
385					390					395				Arg
Gly	Ile	Gly	Ile	Arg	Ile	Glu	Asp	Asp	Ile	Val	Ile	Thr	Glu	Thr
			405						410				415	Gly
Asn	Glu	Asn	Leu	Thr	Ala	Ser	Val	Val	Lys	Lys	Pro	Glu	Glu	Ile
		420						425					430	Glu
Ala	Leu	Met	Val	Ala	Ala	Arg	Lys	Gln						
		435					440							

<210> 273
 <211> 194
 <212> PRT
 <213> E. Coli

Met	Leu	Met	Ser	Ile	Gln	Asn	Glu	Met	Pro	Gly	Tyr	Asn	Glu	Met
1				5					10				15	Asn
Gln	Tyr	Leu	Asn	Gln	Gln	Gly	Thr	Gly	Leu	Thr	Pro	Ala	Glu	Met
		20						25					30	His
Gly	Leu	Ile	Ser	Gly	Met	Ile	Cys	Gly	Gly	Asn	Asp	Asp	Ser	Ser
		35					40					45		Trp
Leu	Pro	Leu	Leu	His	Asp	Leu	Thr	Asn	Glu	Gly	Met	Ala	Phe	Gly
	50					55					60			His
Glu	Leu	Ala	Gln	Ala	Leu	Arg	Lys	Met	His	Ser	Ala	Thr	Ser	Asp
65					70					75				Ala
Leu	Gln	Asp	Asp	Gly	Phe	Leu	Phe	Gln	Leu	Tyr	Leu	Pro	Asp	Gly
			85						90				95	Asp
Asp	Val	Ser	Val	Phe	Asp	Arg	Ala	Asp	Ala	Leu	Ala	Gly	Trp	Val
		100						105					110	Asn

His	Phe	Leu	Leu	Gly	Leu	Gly	Val	Thr	Gln	Pro	Lys	Leu	Asp	Lys	Val
	115						120					125			
Thr	Gly	Glu	Thr	Gly	Glu	Ala	Ile	Asp	Asp	Leu	Arg	Asn	Ile	Ala	Gln
	130					135					140				
Leu	Gly	Tyr	Asp	Glu	Asp	Glu	Asp	Gln	Glu	Glu	Leu	Glu	Met	Ser	Leu
145					150					155					160
Glu	Glu	Ile	Ile	Glu	Tyr	Val	Arg	Val	Ala	Ala	Leu	Leu	Cys	His	Asp
				165					170					175	
Thr	Phe	Thr	His	Pro	Gln	Pro	Thr	Ala	Pro	Glu	Val	Gln	Lys	Pro	Thr
			180					185					190		
Leu	His														

<210> 274
 <211> 120
 <212> PRT
 <213> E. Coli

--<400> 274

Met	Leu	Lys	Leu	Phe	Ala	Lys	Tyr	Thr	Ser	Ile	Gly	Val	Leu	Asn	Thr
1				5					10					15	
Leu	Ile	His	Trp	Val	Val	Phe	Gly	Val	Cys	Ile	Tyr	Val	Ala	His	Thr
			20					25					30		
Asn	Gln	Ala	Leu	Ala	Asn	Phe	Ala	Gly	Phe	Val	Val	Ala	Val	Ser	Phe
		35					40					45			
Ser	Phe	Phe	Ala	Asn	Ala	Lys	Phe	Thr	Phe	Lys	Ala	Ser	Thr	Thr	Thr
	50					55					60				
Met	Arg	Tyr	Met	Leu	Tyr	Val	Gly	Phe	Met	Gly	Thr	Leu	Ser	Ala	Thr
65					70					75					80
Val	Gly	Trp	Ala	Ala	Asp	Arg	Cys	Ala	Leu	Pro	Pro	Met	Ile	Thr	Leu
				85					90					95	
Val	Thr	Phe	Ser	Ala	Ile	Ser	Leu	Val	Cys	Gly	Phe	Val	Tyr	Ser	Lys
			100					105					110		
Phe	Ile	Val	Phe	Arg	Asp	Ala	Lys								
		115					120								

<210> 275
 <211> 306
 <212> PRT
 <213> E. Coli

<400> 275

Met	Lys	Ile	Ser	Leu	Val	Val	Pro	Val	Phe	Asn	Glu	Glu	Glu	Ala	Ile
1				5					10					15	
Pro	Ile	Phe	Tyr	Lys	Thr	Val	Arg	Glu	Phe	Glu	Glu	Leu	Lys	Ser	Tyr
			20					25					30		
Glu	Val	Glu	Ile	Val	Phe	Ile	Asn	Asp	Gly	Ser	Lys	Asp	Ala	Thr	Glu
		35					40					45			
Ser	Ile	Ile	Asn	Ala	Leu	Ala	Val	Ser	Asp	Pro	Leu	Val	Val	Pro	Leu
		50				55					60				
Ser	Phe	Thr	Arg	Asn	Phe	Gly	Lys	Glu	Pro	Ala	Leu	Phe	Ala	Gly	Leu
65					70					75					80
Asp	His	Ala	Thr	Gly	Asp	Ala	Ile	Ile	Pro	Ile	Asp	Val	Asp	Leu	Gln
				85					90					95	
Asp	Pro	Ile	Glu	Val	Ile	Pro	His	Leu	Ile	Glu	Lys	Trp	Gln	Ala	Gly
			100					105					110		

Ala Asp Met Val Leu Ala Lys Arg Ser Asp Arg Ser Thr Asp Gly Arg
 115 120 125
 Leu Lys Arg Lys Thr Ala Glu Trp Phe Tyr Lys Leu His Asn Lys Ile
 130 135 140
 Ser Asn Pro Lys Ile Glu Asn Val Gly Asp Phe Arg Leu Met Ser
 145 150 155 160
 Arg Asp Val Val Glu Asn Ile Lys Leu Met Pro Glu Arg Asn Leu Phe
 165 170 175
 Met Lys Gly Ile Leu Ser Trp Val Gly Gly Lys Thr Asp Ile Val Glu
 180 185 190
 Tyr Val Arg Ala Glu Arg Ile Ala Gly Asp Thr Lys Phe Asn Gly Trp
 195 200 205
 Lys Leu Trp Asn Leu Ala Leu Glu Gly Ile Thr Ser Phe Ser Thr Phe
 210 215 220
 Pro Leu Arg Ile Trp Thr Tyr Ile Gly Leu Val Val Ala Ser Val Ala
 225 230 235 240
 Phe Ile Tyr Gly Ala Trp Met Ile Leu Asp Thr Ile Ile Phe Gly Asn
 245 250 255
 Ala Val Arg Gly Tyr Pro Ser Leu Leu Val Ser Ile Leu Phe Leu Gly
 260 265 270
 Gly Ile Gln Met Ile Gly Ile Gly Val Leu Gly Glu Tyr Ile Gly Arg
 275 280 285
 Thr Tyr Ile Glu Thr Lys Lys Arg Pro Lys Tyr Ile Ile Lys Arg Val
 290 295 300
 Lys Lys
 305

<210> 276
 <211> 443
 <212> PRT
 <213> E. Coli

<400> 276
 Met Asn Lys Ala Ile Lys Val Ser Leu Tyr Ile Ser Phe Val Leu Ile
 1 5 10 15
 Ile Cys Ala Leu Ser Lys Asn Ile Met Met Leu Asn Thr Ser Asp Phe
 20 25 30
 Gly Arg Ala Ile Lys Pro Leu Ile Glu Asp Ile Pro Ala Phe Thr Tyr
 35 40 45
 Asp Leu Pro Leu Leu Tyr Lys Leu Lys Gly His Ile Asp Ser Ile Asp
 50 55 60
 Ser Tyr Glu Tyr Ile Ser Ser Tyr Ser Tyr Ile Leu Tyr Thr Tyr Val
 65 70 75 80
 Leu Phe Ile Ser Ile Phe Thr Glu Tyr Leu Asp Ala Arg Val Leu Ser
 85 90 95
 Leu Phe Leu Lys Val Ile Tyr Ile Tyr Ser Leu Tyr Ala Ile Phe Thr
 100 105 110
 Ser Tyr Ile Lys Thr Glu Arg Tyr Val Thr Leu Phe Thr Phe Phe Ile
 115 120 125
 Leu Ala Phe Leu Met Cys Ser Ser Ser Thr Leu Ser Met Phe Ala Ser
 130 135 140
 Phe Tyr Gln Glu Gln Ile Val Ile Ile Phe Leu Pro Phe Leu Val Tyr
 145 150 155 160
 Ser Leu Thr Cys Lys Asn Asn Lys Ser Met Leu Leu Leu Phe Phe Ser
 165 170 175
 Leu Leu Ile Ile Ser Thr Ala Lys Asn Gln Phe Ile Leu Thr Pro Leu

				180				185				190			
Ile	Val	Tyr	Ser	Tyr	Tyr	Ile	Phe	Phe	Asp	Arg	His	Lys	Leu	Ile	Ile
		195					200					205			
Lys	Ser	Val	Ile	Cys	Val	Val	Cys	Leu	Leu	Ala	Ser	Ile	Phe	Ala	Ile
	210					215					220				
Ser	Tyr	Ser	Lys	Gly	Val	Val	Glu	Leu	Asn	Lys	Tyr	His	Ala	Thr	Tyr
225					230					235					240
Phe	Gly	Ser	Tyr	Leu	Tyr	Met	Lys	Asn	Asn	Gly	Tyr	Lys	Met	Pro	Ser
				245					250						255
Tyr	Val	Asp	Asp	Lys	Cys	Val	Gly	Leu	Asp	Ala	Trp	Gly	Asn	Lys	Phe
		260						265					270		
Asp	Ile	Ser	Phe	Gly	Ala	Thr	Pro	Thr	Glu	Val	Gly	Thr	Glu	Cys	Phe
	275						280					285			
Glu	Ser	His	Lys	Asp	Glu	Thr	Phe	Ser	Asn	Ala	Leu	Phe	Leu	Leu	Val
	290					295					300				
Ser	Lys	Pro	Ser	Thr	Ile	Phe	Lys	Leu	Pro	Phe	Asp	Asp	Gly	Val	Met
305					310					315					320
Ser	Gln	Tyr	Lys	Glu	Asn	Tyr	Phe	His	Val	Tyr	Lys	Lys	Leu	His	Val
				325					330					335	
Ile	Tyr	Gly	Glu	Ser	Asn	Ile	Leu	Thr	Thr	Ile	Thr	Asn	Ile	Lys	Asp
		340						345					350		
Asn	Ile	Phe	Lys	Asn	Ile	Arg	Phe	Ile	Ser	Leu	Leu	Leu	Phe	Phe	Ile
	355						360					365			
Ala	Ser	Ile	Phe	Ile	Arg	Asn	Asn	Lys	Ile	Lys	Ala	Ser	Leu	Phe	Val
	370					375					380				
Val	Ser	Leu	Phe	Gly	Ile	Ser	Gln	Phe	Tyr	Val	Ser	Phe	Phe	Gly	Glu
385					390					395					400
Gly	Tyr	Arg	Asp	Leu	Ser	Lys	His	Leu	Phe	Gly	Met	Tyr	Phe	Ser	Phe
				405					410					415	
Asp	Leu	Cys	Leu	Tyr	Ile	Thr	Val	Val	Phe	Leu	Ile	Tyr	Lys	Ile	Ile
			420					425					430		
Gln	Arg	Asn	Gln	Asp	Asn	Ser	Asp	Val	Lys	His					
		435					440								

<210> 277
 <211> 82
 <212> PRT
 <213> E. Coli

<400> 277

Met	Gly	Ile	Leu	Ser	Trp	Ile	Ile	Phe	Gly	Leu	Ile	Ala	Gly	Ile	Leu
1				5					10					15	
Ala	Lys	Trp	Ile	Met	Pro	Gly	Lys	Asp	Gly	Gly	Gly	Phe	Phe	Met	Thr
			20					25					30		
Ile	Leu	Leu	Gly	Ile	Val	Gly	Ala	Val	Val	Gly	Gly	Trp	Ile	Ser	Thr
		35					40					45			
Leu	Phe	Gly	Phe	Gly	Lys	Val	Asp	Gly	Phe	Asn	Phe	Gly	Ser	Phe	Val
	50					55					60				
Val	Ala	Val	Ile	Gly	Ala	Ile	Val	Val	Leu	Phe	Ile	Tyr	Arg	Lys	Ile
65					70				75					80	
Lys	Ser														

<210> 278

<211> 60
 <212> PRT
 <213> E. Coli

<400> 278
 Met Gly Lys Ala Thr Tyr Thr Val Thr Val Thr Asn Asn Ser Asn Gly
 1 5 10 15
 Val Ser Val Asp Tyr Glu Thr Glu Thr Pro Met Thr Leu Leu Val Pro
 20 25 30
 Glu Val Ala Ala Glu Val Ile Lys Asp Leu Val Asn Thr Val Arg Ser
 35 40 45
 Tyr Asp Thr Glu Asn Glu His Asp Val Cys Gly Trp
 50 55 60

<210> 279
 <211> 119
 <212> PRT
 <213> E. Coli

<400> 279
 Met Leu Gln Ile Pro Gln Asn Tyr Ile His Thr Arg Ser Thr Pro Phe
 1 5 10 15
 Trp Asn Lys Gln Thr Ala Pro Ala Gly Ile Phe Glu Arg His Leu Asp
 20 25 30
 Lys Gly Thr Arg Pro Gly Val Tyr Pro Arg Leu Ser Val Met His Gly
 35 40 45
 Ala Val Lys Tyr Leu Gly Tyr Ala Asp Glu His Ser Ala Glu Pro Asp
 50 55 60
 Gln Val Ile Leu Ile Glu Ala Gly Gln Phe Ala Val Phe Pro Pro Glu
 65 70 75 80
 Lys Trp His Asn Ile Glu Ala Met Thr Asp Asp Thr Tyr Phe Asn Ile
 85 90 95
 Asp Phe Phe Val Ala Pro Glu Val Leu Met Glu Gly Ala Gln Gln Arg
 100 105 110
 Lys Val Ile His Asn Gly Lys
 115

<210> 280
 <211> 246
 <212> PRT
 <213> E. Coli

<400> 280
 Met Lys Phe Lys Val Ile Ala Leu Ala Ala Leu Met Gly Ile Ser Gly
 1 5 10 15
 Met Ala Ala Gln Ala Asn Glu Leu Pro Asp Gly Pro His Ile Val Thr
 20 25 30
 Ser Gly Thr Ala Ser Val Asp Ala Val Pro Asp Ile Ala Thr Leu Ala
 35 40 45
 Ile Glu Val Asn Val Ala Ala Lys Asp Ala Ala Thr Ala Lys Lys Gln
 50 55 60
 Ala Asp Glu Arg Val Ala Gln Tyr Ile Ser Phe Leu Glu Leu Asn Gln
 65 70 75 80
 Ile Ala Lys Lys Asp Ile Ser Ser Ala Asn Leu Arg Thr Gln Pro Asp
 85 90 95

Tyr	Asp	Tyr	Gln	Asp	Gly	Lys	Ser	Ile	Leu	Lys	Gly	Tyr	Arg	Ala	Val
			100					105					110		
Arg	Thr	Val	Glu	Val	Thr	Leu	Arg	Gln	Leu	Asp	Lys	Leu	Asn	Ser	Leu
		115					120					125			
Leu	Asp	Gly	Ala	Leu	Lys	Ala	Gly	Leu	Asn	Glu	Ile	Arg	Ser	Val	Ser
	130					135					140				
Leu	Gly	Val	Ala	Gln	Pro	Asp	Ala	Tyr	Lys	Asp	Lys	Ala	Arg	Lys	Ala
145					150					155					160
Ala	Ile	Asp	Asn	Ala	Ile	His	Gln	Ala	Gln	Glu	Leu	Ala	Asn	Gly	Phe
			165						170					175	
His	Arg	Lys	Leu	Gly	Pro	Val	Tyr	Ser	Val	Arg	Tyr	His	Val	Ser	Asn
		180						185					190		
Tyr	Gln	Pro	Ser	Pro	Met	Val	Arg	Met	Met	Lys	Ala	Asp	Ala	Ala	Pro
		195					200					205			
Val	Ser	Ala	Gln	Glu	Thr	Tyr	Glu	Gln	Ala	Ala	Ile	Gln	Phe	Asp	Asp
	210					215					220				
Gln	Val	Asp	Val	Val	Phe	Gln	Leu	Glu	Pro	Val	Asp	Gln	Gln	Pro	Ala
225					230					235					240
Lys	Thr	Pro	Ala	Ala	Gln										
				245											

<210> 281

<211> 464

<212> PRT

<213> E. Coli

<400> 281

Met	Leu	Leu	Leu	Asp	Ala	Cys	Ser	Gln	Met	Cys	Pro	Ser	Phe	Arg	Arg
1				5					10					15	
Phe	Gln	Thr	Val	Phe	His	Asn	Ser	Ser	Ile	Phe	Leu	Pro	Tyr	Trp	Leu
			20					25					30		
Ala	Thr	Leu	Val	Ser	Phe	Arg	Glu	Thr	Phe	Gln	Glu	Glu	Lys	Leu	Leu
		35					40					45			
Thr	Met	Lys	Gly	Ser	Tyr	Lys	Ser	Arg	Trp	Val	Ile	Val	Ile	Val	Val
	50					55					60				
Val	Ile	Ala	Ala	Ile	Ala	Ala	Phe	Trp	Phe	Trp	Gln	Gly	Arg	Asn	Asp
65				70					75					80	
Ser	Arg	Ser	Ala	Ala	Pro	Gly	Ala	Thr	Lys	Gln	Ala	Gln	Gln	Ser	Pro
			85						90					95	
Ala	Gly	Gly	Arg	Arg	Gly	Met	Arg	Ser	Gly	Pro	Leu	Ala	Pro	Val	Gln
		100						105					110		
Ala	Ala	Thr	Ala	Val	Glu	Gln	Ala	Val	Pro	Arg	Tyr	Leu	Thr	Gly	Leu
		115					120					125			
Gly	Thr	Ile	Thr	Ala	Ala	Asn	Thr	Val	Thr	Val	Arg	Ser	Arg	Val	Asp
	130					135					140				
Gly	Gln	Leu	Ile	Ala	Leu	His	Phe	Gln	Glu	Gly	Gln	Gln	Val	Lys	Ala
145					150					155					160
Gly	Asp	Leu	Leu	Ala	Glu	Ile	Asp	Pro	Ser	Gln	Phe	Lys	Val	Ala	Leu
				165					170					175	
Ala	Gln	Ala	Gln	Gly	Gln	Leu	Ala	Lys	Asp	Lys	Ala	Thr	Leu	Ala	Asn
			180					185					190		
Ala	Arg	Arg	Asp	Leu	Ala	Arg	Tyr	Gln	Gln	Leu	Ala	Lys	Thr	Asn	Leu
	195						200					205			
Val	Ser	Arg	Gln	Glu	Leu	Asp	Ala	Gln	Gln	Ala	Leu	Val	Ser	Glu	Thr
	210					215					220				
Glu	Gly	Thr	Ile	Lys	Ala	Asp	Glu	Ala	Ser	Val	Ala	Ser	Ala	Gln	Leu

225		230		235		240									
Gln	Leu	Asp	Trp	Ser	Arg	Ile	Thr	Ala	Pro	Val	Asp	Gly	Arg	Val	Gly
		245							250					255	
Leu	Lys	Gln	Val	Asp	Val	Gly	Asn	Gln	Ile	Ser	Ser	Gly	Asp	Thr	Thr
		260						265					270		
Gly	Ile	Val	Val	Ile	Thr	Gln	Thr	His	Pro	Ile	Asp	Leu	Val	Phe	Thr
		275					280					285			
Leu	Pro	Glu	Ser	Asp	Ile	Ala	Thr	Val	Val	Gln	Ala	Gln	Lys	Ala	Gly
		290				295					300				
Lys	Pro	Leu	Val	Val	Glu	Ala	Trp	Asp	Arg	Thr	Asn	Ser	Lys	Lys	Leu
305					310					315					320
Ser	Glu	Gly	Thr	Leu	Leu	Ser	Leu	Asp	Asn	Gln	Ile	Asp	Ala	Thr	Thr
				325				330						335	
Gly	Thr	Ile	Lys	Val	Lys	Ala	Arg	Phe	Asn	Asn	Gln	Asp	Asp	Ala	Leu
		340				345							350		
Phe	Pro	Asn	Gln	Phe	Val	Asn	Ala	Arg	Met	Leu	Val	Asp	Thr	Glu	Gln
		355				360						365			
Asn	Ala	Val	Val	Ile	Pro	Thr	Ala	Ala	Leu	Gln	Met	Gly	Asn	Glu	Gly
		370				375					380				
His	Phe	Val	Trp	Val	Leu	Asn	Ser	Glu	Asn	Lys	Val	Ser	Lys	His	Leu
385					390					395					400
Val	Thr	Pro	Gly	Ile	Gln	Asp	Ser	Gln	Lys	Val	Val	Ile	Arg	Ala	Gly
			405					410					415		
Ile	Ser	Ala	Gly	Asp	Arg	Val	Val	Thr	Asp	Gly	Ile	Asp	Arg	Leu	Thr
			420					425					430		
Glu	Gly	Ala	Lys	Val	Glu	Val	Val	Glu	Ala	Gln	Ser	Ala	Thr	Thr	Pro
		435				440					445				
Glu	Glu	Lys	Ala	Thr	Ser	Arg	Glu	Tyr	Ala	Lys	Lys	Gly	Ala	Arg	Ser
		450				455					460				

<210> 282
 <211> 1040
 <212> PRT
 <213> E. Coli

<400> 282

Met	Gln	Val	Leu	Pro	Pro	Ser	Ser	Thr	Gly	Gly	Pro	Ser	Arg	Leu	Phe
1				5					10					15	
Ile	Met	Arg	Pro	Val	Ala	Thr	Thr	Leu	Leu	Met	Val	Ala	Ile	Leu	Leu
			20					25					30		
Ala	Gly	Ile	Ile	Gly	Tyr	Arg	Ala	Leu	Pro	Val	Ser	Ala	Leu	Pro	Glu
		35				40						45			
Val	Asp	Tyr	Pro	Thr	Ile	Gln	Val	Val	Thr	Leu	Tyr	Pro	Gly	Ala	Ser
		50			55						60				
Pro	Asp	Val	Met	Thr	Ser	Ala	Val	Thr	Ala	Pro	Leu	Glu	Arg	Gln	Phe
65					70					75					80
Gly	Gln	Met	Ser	Gly	Leu	Lys	Gln	Met	Ser	Ser	Gln	Ser	Ser	Gly	Gly
			85					90						95	
Ala	Ser	Val	Ile	Thr	Leu	Gln	Phe	Gln	Leu	Thr	Leu	Pro	Leu	Asp	Val
			100					105					110		
Ala	Glu	Gln	Glu	Val	Gln	Ala	Ala	Ile	Asn	Ala	Ala	Thr	Asn	Leu	Leu
		115				120						125			
Pro	Ser	Asp	Leu	Pro	Asn	Pro	Pro	Val	Tyr	Ser	Lys	Val	Asn	Pro	Ala
		130			135						140				
Asp	Pro	Pro	Ile	Met	Thr	Leu	Ala	Val	Thr	Ser	Thr	Ala	Met	Pro	Met
145					150					155					160

Thr	Gln	Val	Glu	Asp	Met	Val	Glu	Thr	Arg	Val	Ala	Gln	Lys	Ile	Ser	165	170	175
Gln	Ile	Ser	Gly	Val	Gly	Leu	Val	Thr	Leu	Ser	Gly	Gly	Gln	Arg	Pro	180	185	190
Ala	Val	Arg	Val	Lys	Leu	Asn	Ala	Gln	Ala	Ile	Ala	Ala	Leu	Gly	Leu	195	200	205
Thr	Ser	Glu	Thr	Val	Arg	Thr	Ala	Ile	Thr	Gly	Ala	Asn	Val	Asn	Ser	210	215	220
Ala	Lys	Gly	Ser	Leu	Asp	Gly	Pro	Ser	Arg	Ala	Val	Thr	Leu	Ser	Ala	225	230	235
Asn	Asp	Gln	Met	Gln	Ser	Ala	Glu	Glu	Tyr	Arg	Gln	Leu	Ile	Ile	Ala	245	250	255
Tyr	Gln	Asn	Gly	Ala	Pro	Ile	Arg	Leu	Gly	Asp	Val	Ala	Thr	Val	Glu	260	265	270
Gln	Gly	Ala	Glu	Asn	Ser	Trp	Leu	Gly	Ala	Trp	Ala	Asn	Lys	Glu	Gln	275	280	285
Ala	Ile	Val	Met	Asn	Val	Gln	Arg	Gln	Pro	Gly	Ala	Asn	Ile	Ile	Ser	290	295	300
Thr	Ala	Asp	Ser	Ile	Arg	Gln	Met	Leu	Pro	Gln	Leu	Thr	Glu	Ser	Leu	305	310	315
Pro	Lys	Ser	Val	Lys	Val	Thr	Val	Leu	Ser	Asp	Arg	Thr	Thr	Asn	Ile	325	330	335
Arg	Ala	Ser	Val	Asp	Asp	Thr	Gln	Phe	Glu	Leu	Met	Met	Ala	Ile	Ala	340	345	350
Leu	Val	Val	Met	Ile	Ile	Tyr	Leu	Phe	Leu	Arg	Asn	Ile	Pro	Ala	Thr	355	360	365
Ile	Ile	Pro	Gly	Val	Ala	Val	Pro	Leu	Ser	Leu	Ile	Gly	Thr	Phe	Ala	370	375	380
Val	Met	Val	Phe	Leu	Asp	Phe	Ser	Ile	Asn	Asn	Leu	Thr	Leu	Met	Ala	385	390	395
Leu	Thr	Ile	Ala	Thr	Gly	Phe	Val	Val	Asp	Asp	Ala	Ile	Val	Val	Ile	405	410	415
Glu	Asn	Ile	Ser	Arg	Tyr	Ile	Glu	Lys	Gly	Glu	Lys	Pro	Leu	Ala	Ala	420	425	430
Ala	Leu	Lys	Gly	Ala	Gly	Glu	Ile	Gly	Phe	Thr	Ile	Ile	Ser	Leu	Thr	435	440	445
Phe	Ser	Leu	Ile	Ala	Val	Leu	Ile	Pro	Leu	Leu	Phe	Met	Gly	Asp	Ile	450	455	460
Val	Gly	Arg	Leu	Phe	Arg	Glu	Phe	Ala	Ile	Thr	Leu	Ala	Val	Ala	Ile	465	470	475
Leu	Ile	Ser	Ala	Val	Val	Ser	Leu	Thr	Leu	Thr	Pro	Met	Met	Cys	Ala	485	490	495
Arg	Met	Leu	Ser	Gln	Glu	Ser	Leu	Arg	Lys	Gln	Asn	Arg	Phe	Ser	Arg	500	505	510
Ala	Ser	Glu	Lys	Met	Phe	Asp	Arg	Ile	Ile	Ala	Ala	Tyr	Gly	Arg	Gly	515	520	525
Leu	Ala	Lys	Val	Leu	Asn	His	Pro	Trp	Leu	Thr	Leu	Ser	Val	Ala	Leu	530	535	540
Ser	Thr	Leu	Leu	Leu	Ser	Val	Leu	Leu	Trp	Val	Phe	Ile	Pro	Lys	Gly	545	550	555
Phe	Phe	Pro	Val	Gln	Asp	Asn	Gly	Ile	Ile	Gln	Gly	Thr	Leu	Gln	Ala	565	570	575
Pro	Gln	Ser	Ser	Ser	Phe	Ala	Asn	Met	Ala	Gln	Arg	Gln	Arg	Gln	Val	580	585	590
Ala	Asp	Val	Ile	Leu	Gln	Asp	Pro	Ala	Val	Gln	Ser	Leu	Thr	Ser	Phe	595	600	605
Val	Gly	Val	Asp	Gly	Thr	Asn	Pro	Ser	Leu	Asn	Ser	Ala	Arg	Leu	Gln			

610		615		620
Ile Asn Leu Lys Pro Leu Asp Glu Arg Asp Asp Arg Val Gln Lys Val				
625		630		640
Ile Ala Arg Leu Gln Thr Ala Val Asp Lys Val Pro Gly Val Asp Leu				
	645		650	655
Phe Leu Gln Pro Thr Gln Asp Leu Thr Ile Asp Thr Gln Val Ser Arg				
	660		665	670
Thr Gln Tyr Gln Phe Thr Leu Gln Ala Thr Ser Leu Asp Ala Leu Ser				
	675		680	685
Thr Trp Val Pro Gln Leu Met Glu Lys Leu Gln Gln Leu Pro Gln Leu				
	690		695	700
Ser Asp Val Ser Ser Asp Trp Gln Asp Lys Gly Leu Val Ala Tyr Val				
705		710		720
Asn Val Asp Arg Asp Ser Ala Ser Arg Leu Gly Ile Ser Met Ala Asp				
	725		730	735
Val Asp Asn Ala Leu Tyr Asn Ala Phe Gly Gln Arg Leu Ile Ser Thr				
	740		745	750
Ile Tyr Thr Gln Ala Asn Gln Tyr Arg Val Val Leu Glu His Asn Thr				
	755		760	765
Glu Asn Thr Pro Gly Leu Ala Ala Leu Asp Thr Ile Arg Leu Thr Ser				
	770		775	780
Ser Asp Gly Gly Val Val Pro Leu Ser Ser Ile Ala Lys Ile Glu Gln				
785		790		800
Arg Phe Ala Pro Leu Ser Ile Asn His Leu Asp Gln Phe Pro Val Thr				
	805		810	815
Thr Ile Ser Phe Asn Val Pro Asp Asn Tyr Ser Leu Gly Asp Ala Val				
	820		825	830
Gln Ala Ile Met Asp Thr Glu Lys Thr Leu Asn Leu Pro Val Asp Ile				
	835		840	845
Thr Thr Gln Phe Gln Gly Ser Thr Leu Ala Phe Gln Ser Ala Leu Gly				
	850		855	860
Ser Thr Val Trp Leu Ile Val Ala Ala Val Val Ala Met Tyr Ile Val				
865		870		880
Leu Gly Ile Leu Tyr Glu Ser Phe Ile His Pro Ile Thr Ile Leu Ser				
	885		890	895
Thr Leu Pro Thr Ala Gly Val Gly Ala Leu Leu Ala Leu Leu Ile Ala				
	900		905	910
Gly Ser Glu Leu Asp Val Ile Ala Ile Ile Gly Ile Ile Leu Leu Ile				
	915		920	925
Gly Ile Val Lys Lys Asn Ala Ile Met Met Ile Asp Phe Ala Leu Ala				
	930		935	940
Ala Glu Arg Glu Gln Gly Met Ser Pro Arg Glu Ala Ile Tyr Gln Ala				
945		950		960
Cys Leu Leu Arg Phe Arg Pro Ile Leu Met Thr Thr Leu Ala Ala Leu				
	965		970	975
Leu Gly Ala Leu Pro Leu Met Leu Ser Thr Gly Val Gly Ala Glu Leu				
	980		985	990
Arg Arg Pro Leu Gly Ile Gly Met Val Gly Gly Leu Ile Val Ser Gln				
	995		1000	1005
Val Leu Thr Leu Phe Thr Thr Pro Val Ile Tyr Leu Leu Phe Asp Arg				
	1010		1015	1020
Leu Ala Leu Trp Thr Lys Ser Arg Phe Ala Arg His Glu Glu Glu Ala				
1025		1030		1040
			1035	

<210> 283
<211> 1025

<212> PRT
 <213> E. Coli

<400> 283
 Met Lys Phe Phe Ala Leu Phe Ile Tyr Arg Pro Val Ala Thr Ile Leu
 1 5 10 15
 Leu Ser Val Ala Ile Thr Leu Cys Gly Ile Leu Gly Phe Arg Met Leu
 20 25 30
 Pro Val Ala Pro Leu Pro Gln Val Asp Phe Pro Val Ile Ile Val Ser
 35 40 45
 Ala Ser Leu Pro Gly Ala Ser Pro Glu Thr Met Ala Ser Ser Val Ala
 50 55 60
 Thr Pro Leu Glu Arg Ser Leu Gly Arg Ile Ala Gly Val Ser Glu Met
 65 70 75 80
 Thr Ser Ser Ser Ser Leu Gly Ser Thr Arg Ile Ile Leu Gln Phe Asp
 85 90 95
 Phe Asp Arg Asp Ile Asn Gly Ala Ala Arg Asp Val Gln Ala Ala Ile
 100 105 110
 Asn Ala Ala Gln Ser Leu Leu Pro Ser Gly Met Pro Ser Arg Pro Thr
 115 120 125
 Tyr Arg Lys Ala Asn Pro Ser Asp Ala Pro Ile Met Ile Leu Thr Leu
 130 135 140
 Thr Ser Asp Thr Tyr Ser Gln Gly Glu Leu Tyr Asp Phe Ala Ser Thr
 145 150 155 160
 Gln Leu Ala Pro Thr Ile Ser Gln Ile Asp Gly Val Gly Asp Val Asp
 165 170 175
 Val Gly Gly Ser Ser Leu Pro Ala Val Arg Val Gly Leu Asn Pro Gln
 180 185 190
 Ala Leu Phe Asn Gln Gly Val Ser Leu Asp Asp Val Arg Thr Ala Val
 195 200 205
 Ser Asn Ala Asn Val Arg Lys Pro Gln Gly Ala Leu Glu Asp Gly Thr
 210 215 220
 His Arg Trp Gln Ile Gln Thr Asn Asp Glu Leu Lys Thr Ala Ala Glu
 225 230 235 240
 Tyr Gln Pro Leu Ile Ile His Tyr Asn Asn Gly Gly Ala Val Arg Leu
 245 250 255
 Gly Asp Val Ala Thr Val Thr Asp Ser Val Gln Asp Val Arg Asn Ala
 260 265 270
 Gly Met Thr Asn Ala Lys Pro Ala Ile Leu Leu Met Ile Arg Lys Leu
 275 280 285
 Pro Glu Ala Asn Ile Ile Gln Thr Val Asp Ser Ile Arg Ala Lys Leu
 290 295 300
 Pro Glu Leu Gln Glu Thr Ile Pro Ala Ala Ile Asp Leu Gln Ile Ala
 305 310 315 320
 Gln Asp Arg Ser Pro Thr Ile Arg Ala Ser Leu Glu Glu Val Glu Gln
 325 330 335
 Thr Leu Ile Ile Ser Val Ala Leu Val Ile Leu Val Val Phe Leu Phe
 340 345 350
 Leu Arg Ser Gly Arg Ala Thr Ile Ile Pro Ala Val Ser Val Pro Val
 355 360 365
 Ser Leu Ile Gly Thr Phe Ala Ala Met Tyr Leu Cys Gly Phe Ser Leu
 370 375 380
 Asn Asn Leu Ser Leu Met Ala Leu Thr Ile Ala Thr Gly Phe Val Val
 385 390 395 400
 Asp Asp Ala Ile Val Val Leu Glu Asn Ile Ala Arg His Leu Glu Ala
 405 410 415
 Gly Met Lys Pro Leu Gln Ala Ala Leu Gln Gly Thr Arg Glu Val Gly

Leu Ser Thr Leu Pro Ser Ala Gly Val Gly Ala Leu Leu Ala Leu Glu
 885 890 895
 Leu Phe Asn Ala Pro Phe Ser Leu Ile Ala Leu Ile Gly Ile Met Leu
 900 905 910
 Leu Ile Gly Ile Val Lys Lys Asn Ala Ile Met Met Val Asp Phe Ala
 915 920 925
 Leu Glu Ala Gln Arg His Gly Asn Leu Thr Pro Gln Glu Ala Ile Phe
 930 935 940
 Gln Ala Cys Leu Leu Arg Phe Arg Pro Ile Met Met Thr Thr Leu Ala
 945 950 955 960
 Ala Leu Phe Gly Ala Leu Pro Leu Val Leu Ser Gly Gly Asp Gly Ser
 965 970 975
 Glu Leu Arg Gln Pro Leu Gly Ile Thr Ile Val Gly Gly Leu Val Met
 980 985 990
 Ser Gln Leu Leu Thr Leu Tyr Thr Thr Pro Val Val Tyr Leu Phe Phe
 995 1000 1005
 Asp Arg Leu Arg Leu Arg Phe Ser Arg Lys Pro Lys Gln Thr Val Thr
 1010 1015 1020
 Glu
 1025

<210> 284

<211> 471

<212> PRT

<213> E. Coli

<400> 284

Met Thr Asp Leu Pro Asp Ser Thr Arg Trp Gln Leu Trp Ile Val Ala
 1 5 10 15
 Phe Gly Phe Phe Met Gln Ser Leu Asp Thr Thr Ile Val Asn Thr Ala
 20 25 30
 Leu Pro Ser Met Ala Gln Ser Leu Gly Glu Ser Pro Leu His Met His
 35 40 45
 Met Val Ile Val Ser Tyr Val Leu Thr Val Ala Val Met Leu Pro Ala
 50 55 60
 Ser Gly Trp Leu Ala Asp Lys Val Gly Val Arg Asn Ile Phe Phe Thr
 65 70 75 80
 Ala Ile Val Leu Phe Thr Leu Gly Ser Leu Phe Cys Ala Leu Ser Gly
 85 90 95
 Thr Leu Asn Glu Leu Leu Leu Ala Arg Ala Leu Gln Gly Val Gly Gly
 100 105 110
 Ala Met Met Val Pro Val Gly Arg Leu Thr Val Met Lys Ile Val Pro
 115 120 125
 Arg Glu Gln Tyr Met Ala Ala Met Thr Phe Val Thr Leu Pro Gly Gln
 130 135 140
 Val Gly Pro Leu Leu Gly Pro Ala Leu Gly Gly Leu Leu Val Glu Tyr
 145 150 155 160
 Ala Ser Trp His Trp Ile Phe Leu Ile Asn Ile Pro Val Gly Ile Ile
 165 170 175
 Gly Ala Ile Ala Thr Leu Leu Leu Met Pro Asn Tyr Thr Met Gln Thr
 180 185 190
 Arg Arg Phe Asp Leu Ser Gly Phe Leu Leu Leu Ala Val Gly Met Ala
 195 200 205
 Val Leu Thr Leu Ala Leu Asp Gly Ser Lys Gly Thr Gly Leu Ser Pro
 210 215 220
 Leu Thr Ile Ala Gly Leu Val Ala Val Gly Val Val Ala Leu Val Leu

225		230		235		240									
Tyr	Leu	Leu	His	Ala	Arg	Asn	Asn	Asn	Arg	Ala	Leu	Phe	Ser	Leu	Lys
			245						250					255	
Leu	Phe	Arg	Thr	Arg	Thr	Phe	Ser	Leu	Gly	Leu	Ala	Gly	Ser	Phe	Ala
			260						265					270	
Gly	Arg	Ile	Gly	Ser	Gly	Met	Leu	Pro	Phe	Met	Thr	Pro	Val	Phe	Leu
		275					280						285		
Gln	Ile	Gly	Leu	Gly	Phe	Ser	Pro	Phe	His	Ala	Gly	Leu	Met	Met	Ile
	290					295					300				
Pro	Met	Val	Leu	Gly	Ser	Met	Gly	Met	Lys	Arg	Ile	Val	Val	Gln	Val
305					310					315				320	
Val	Asn	Arg	Phe	Gly	Tyr	Arg	Arg	Val	Leu	Val	Ala	Thr	Thr	Leu	Gly
				325					330					335	
Leu	Ser	Leu	Val	Thr	Leu	Leu	Phe	Met	Thr	Thr	Ala	Leu	Leu	Gly	Trp
			340					345					350		
Tyr	Tyr	Val	Leu	Pro	Phe	Val	Leu	Phe	Leu	Gln	Gly	Met	Val	Asn	Ser
		355					360					365			
Thr	Arg	Phe	Ser	Ser	Met	Asn	Thr	Leu	Thr	Leu	Lys	Asp	Leu	Pro	Asp
	370					375					380				
Asn	Leu	Ala	Ser	Ser	Gly	Asn	Ser	Leu	Leu	Ser	Met	Ile	Met	Gln	Leu
385					390					395				400	
Ser	Met	Ser	Ile	Gly	Val	Thr	Ile	Ala	Gly	Leu	Leu	Leu	Gly	Leu	Phe
				405					410					415	
Gly	Ser	Gln	His	Val	Ser	Val	Asp	Ser	Gly	Thr	Thr	Gln	Thr	Val	Phe
			420					425					430		
Met	Tyr	Thr	Trp	Leu	Ser	Met	Ala	Leu	Ile	Ile	Ala	Leu	Pro	Ala	Phe
		435					440					445			
Ile	Phe	Ala	Arg	Val	Pro	Asn	Asp	Thr	His	Gln	Asn	Val	Ala	Ile	Ser
	450					455					460				
Arg	Arg	Lys	Arg	Ser	Ala	Gln									
465					470										

<210> 285
 <211> 344
 <212> PRT
 <213> E. Coli

<400> 285

Met	Glu	Ile	Arg	Ile	Met	Leu	Phe	Ile	Leu	Met	Met	Met	Val	Met	Pro
1				5					10					15	
Val	Ser	Tyr	Ala	Ala	Cys	Tyr	Ser	Glu	Leu	Ser	Val	Gln	His	Asn	Leu
			20					25					30		
Val	Val	Gln	Gly	Asp	Phe	Ala	Leu	Thr	Gln	Thr	Gln	Met	Ala	Thr	Tyr
		35					40					45			
Glu	His	Asn	Phe	Asn	Asp	Ser	Ser	Cys	Val	Ser	Thr	Asn	Thr	Ile	Thr
	50				55					60					
Pro	Met	Ser	Pro	Ser	Asp	Ile	Ile	Val	Gly	Leu	Tyr	Asn	Asp	Thr	Ile
65					70				75					80	
Lys	Leu	Asn	Leu	His	Phe	Glu	Trp	Thr	Asn	Lys	Asn	Asn	Ile	Thr	Leu
			85					90					95		
Ser	Asn	Asn	Gln	Thr	Ser	Phe	Thr	Ser	Gly	Tyr	Ser	Val	Thr	Val	Thr
			100				105					110			
Pro	Ala	Ala	Ser	Asn	Ala	Lys	Val	Asn	Val	Ser	Ala	Gly	Gly	Gly	Gly
	115					120					125				
Ser	Val	Met	Ile	Asn	Gly	Val	Ala	Thr	Leu	Ser	Ser	Ala	Ser	Ser	Ser
130						135				140					

Thr	Arg	Gly	Ser	Ala	Ala	Val	Gln	Phe	Leu	Leu	Cys	Leu	Leu	Gly	Gly
145				150					155					160	
Lys	Ser	Trp	Asp	Ala	Cys	Val	Asn	Ser	Tyr	Arg	Asn	Ala	Leu	Ala	Gln
			165						170					175	
Asn	Ala	Gly	Val	Tyr	Ser	Phe	Asn	Leu	Thr	Leu	Ser	Tyr	Asn	Pro	Ile
			180					185					190		
Thr	Thr	Thr	Cys	Lys	Pro	Asp	Asp	Leu	Leu	Ile	Thr	Leu	Asp	Ser	Ile
		195					200					205			
Pro	Val	Ser	Gln	Leu	Pro	Ala	Thr	Gly	Asn	Lys	Ala	Thr	Ile	Asn	Ser
	210					215					220				
Lys	Gln	Gly	Asp	Ile	Ile	Leu	Arg	Cys	Lys	Asn	Leu	Leu	Gly	Gln	Gln
225				230						235				240	
Asn	Gln	Thr	Ser	Arg	Lys	Met	Gln	Val	Tyr	Leu	Ser	Ser	Ser	Asp	Leu
			245						250					255	
Leu	Thr	Asn	Ser	Asn	Thr	Ile	Leu	Lys	Gly	Ala	Glu	Asp	Asn	Gly	Val
		260					265						270		
Gly	Phe	Ile	Leu	Glu	Ser	Asn	Gly	Ser	Pro	Val	Thr	Leu	Leu	Asn	Ile
	275						280					285			
Thr	Asn	Ser	Ser	Lys	Gly	Tyr	Thr	Asn	Leu	Lys	Glu	Val	Ala	Ala	Lys
	290					295					300				
Ser	Lys	Leu	Thr	Asp	Thr	Thr	Val	Ser	Ile	Pro	Ile	Thr	Ala	Ser	Tyr
305				310						315				320	
Tyr	Val	Tyr	Asp	Thr	Asn	Lys	Val	Lys	Ser	Gly	Ala	Leu	Glu	Ala	Thr
			325						330					335	
Ala	Leu	Ile	Asn	Val	Lys	Tyr	Asp								
			340												

<210> 286
 <211> 826
 <212> PRT
 <213> E. Coli

<400> 286

Met	Leu	Arg	Met	Thr	Pro	Leu	Ala	Ser	Ala	Ile	Val	Ala	Leu	Leu	Leu
1			5					10					15		
Gly	Ile	Glu	Ala	Tyr	Ala	Ala	Glu	Glu	Thr	Phe	Asp	Thr	His	Phe	Met
		20					25						30		
Ile	Gly	Gly	Met	Lys	Asp	Gln	Gln	Val	Ala	Asn	Ile	Arg	Leu	Asp	Asp
	35					40						45			
Asn	Gln	Pro	Leu	Pro	Gly	Gln	Tyr	Asp	Ile	Asp	Ile	Tyr	Val	Asn	Lys
50					55					60					
Gln	Trp	Arg	Gly	Lys	Tyr	Glu	Ile	Ile	Val	Lys	Asp	Asn	Pro	Gln	Glu
65				70						75				80	
Thr	Cys	Leu	Ser	Arg	Glu	Val	Ile	Lys	Arg	Leu	Gly	Ile	Asn	Ser	Asp
			85					90					95		
Asn	Phe	Ala	Ser	Gly	Lys	Gln	Cys	Leu	Thr	Phe	Glu	Gln	Leu	Val	Gln
		100					105						110		
Gly	Gly	Ser	Tyr	Thr	Trp	Asp	Ile	Gly	Val	Phe	Arg	Leu	Asp	Phe	Ser
	115					120						125			
Val	Pro	Gln	Ala	Trp	Val	Glu	Glu	Leu	Glu	Ser	Gly	Tyr	Val	Pro	Pro
	130					135					140				
Glu	Asn	Trp	Glu	Arg	Gly	Ile	Asn	Ala	Phe	Tyr	Thr	Ser	Tyr	Tyr	Leu
145				150						155				160	
Ser	Gln	Tyr	Tyr	Ser	Asp	Tyr	Lys	Ala	Ser	Gly	Asn	Asn	Lys	Ser	Thr
			165						170					175	
Tyr	Val	Arg	Phe	Asn	Ser	Gly	Leu	Asn	Leu	Leu	Gly	Trp	Gln	Leu	His

Ser Thr Tyr Arg Gln Ala Gly Ala Ser Val Ser Gly Gly Ile Val Ala
 645 650 655
 Trp Ser Gly Gly Val Asn Leu Ala Asn Arg Leu Ser Glu Thr Phe Ala
 660 665 670
 Val Met Asn Ala Pro Gly Ile Lys Asp Ala Tyr Val Asn Gly Gln Lys
 675 680 685
 Tyr Arg Thr Thr Asn Arg Asn Gly Val Val Ile Tyr Asp Gly Met Thr
 690 695 700
 Pro Tyr Arg Glu Asn His Leu Met Leu Asp Val Ser Gln Ser Asp Ser
 705 710 715 720
 Glu Ala Glu Leu Arg Gly Asn Arg Lys Ile Ala Ala Pro Tyr Arg Gly
 725 730 735
 Ala Val Val Leu Val Asn Phe Asp Thr Asp Gln Arg Lys Pro Trp Phe
 740 745 750
 Ile Lys Ala Leu Arg Ala Asp Gly Gln Ser Leu Thr Phe Gly Tyr Glu
 755 760 765
 Val Asn Asp Ile His Gly His Asn Ile Gly Val Val Gly Gln Gly Ser
 770 775 780
 Gln Leu Phe Ile Arg Thr Asn Glu Val Pro Pro Ser Val Asn Val Ala
 785 790 795 800
 Ile Asp Lys Gln Gln Gly Leu Ser Cys Thr Ile Thr Phe Gly Lys Glu
 805 810 815
 Ile Asp Glu Ser Arg Asn Tyr Ile Cys Gln
 820 825

<210> 287

<211> 239

<212> PRT

<213> E. Coli

<400> 287

Met Ala Ala Ile Pro Trp Arg Pro Phe Asn Leu Arg Gly Ile Lys Met
 1 5 10 15
 Lys Gly Leu Leu Ser Leu Leu Ile Phe Ser Met Val Leu Pro Ala His
 20 25 30
 Ala Gly Ile Val Ile Tyr Gly Thr Arg Ile Ile Tyr Pro Ala Glu Asn
 35 40 45
 Lys Glu Val Met Val Gln Leu Met Asn Gln Gly Asn Arg Ser Ser Leu
 50 55 60
 Leu Gln Ala Trp Ile Asp Asp Gly Asp Thr Ser Leu Pro Pro Glu Lys
 65 70 75 80
 Ile Gln Val Pro Phe Met Leu Thr Pro Pro Val Ala Lys Ile Gly Ala
 85 90 95
 Asn Ser Gly Gln Gln Val Lys Ile Lys Ile Met Pro Asn Lys Leu Pro
 100 105 110
 Thr Asn Lys Glu Ser Ile Phe Tyr Leu Asn Val Leu Asp Ile Pro Pro
 115 120 125
 Asn Ser Pro Glu Gln Glu Gly Lys Asn Ala Leu Lys Phe Ala Met Gln
 130 135 140
 Asn Arg Ile Lys Leu Phe Tyr Arg Pro Ala Gly Ile Ala Pro Val Asn
 145 150 155 160
 Lys Ala Thr Phe Lys Lys Leu Leu Val Asn Arg Ser Gly Asn Gly Leu
 165 170 175
 Val Ile Lys Asn Asp Ser Ala Asn Trp Val Thr Ile Ser Asp Val Lys
 180 185 190
 Ala Asn Asn Val Lys Val Asn Tyr Glu Thr Ile Met Ile Ala Pro Leu

	195		200		205										
Glu	Ser	Gln	Ser	Val	Asn	Val	Lys	Ser	Asn	Asn	Ala	Asn	Asn	Trp	His
	210				215						220				
Leu	Thr	Ile	Ile	Asp	Asp	His	Gly	Asn	Tyr	Ile	Ser	Asp	Lys	Ile	
225					230					235					

<210> 288
 <211> 180
 <212> PRT
 <213> E. Coli

<400> 288

Met	Lys	Arg	Ser	Ile	Ile	Ala	Ala	Ala	Val	Phe	Ser	Ser	Phe	Phe	Met
1				5					10				15		
Ser	Ala	Gly	Val	Phe	Ala	Ala	Asp	Val	Asp	Thr	Gly	Thr	Leu	Thr	Ile
			20					25					30		
Lys	Gly	Asn	Ile	Ala	Glu	Ser	Pro	Cys	Lys	Phe	Glu	Ala	Gly	Gly	Asp
		35					40					45			
Ser	Val	Ser	Ile	Asn	Met	Pro	Thr	Val	Pro	Thr	Ser	Val	Phe	Glu	Gly
	50				55						60				
Lys	Ala	Lys	Tyr	Ser	Thr	Tyr	Asp	Asp	Ala	Val	Gly	Val	Thr	Ser	Ser
65				70						75					80
Met	Leu	Lys	Ile	Ser	Cys	Pro	Lys	Glu	Val	Ala	Gly	Val	Lys	Leu	Ser
			85					90						95	
Leu	Ile	Thr	Asn	Asp	Lys	Ile	Thr	Gly	Asn	Asp	Lys	Ala	Ile	Ala	Ser
			100					105					110		
Ser	Asn	Asp	Thr	Val	Gly	Tyr	Tyr	Leu	Tyr	Leu	Gly	Asp	Asn	Ser	Asp
		115					120					125			
Val	Leu	Asp	Val	Ser	Ala	Pro	Phe	Asn	Ile	Glu	Ser	Tyr	Lys	Thr	Ala
	130					135					140				
Glu	Gly	Gln	Tyr	Ala	Ile	Pro	Phe	Lys	Ala	Lys	Tyr	Leu	Lys	Leu	Thr
145					150					155					160
Asp	Asn	Ser	Val	Gln	Ser	Gly	Asp	Val	Leu	Ser	Ser	Leu	Val	Met	Arg
				165					170					175	
Val	Ala	Gln	Asp												
			180												

<210> 289
 <211> 112
 <212> PRT
 <213> E. Coli

<400> 289

Met	Ser	Ser	Glu	Arg	Asp	Leu	Val	Asn	Phe	Leu	Gly	Asp	Phe	Ser	Met
1				5					10					15	
Asp	Val	Ala	Lys	Ala	Val	Ile	Ala	Gly	Gly	Val	Ala	Thr	Ala	Ile	Gly
			20					25					30		
Ser	Leu	Ala	Ser	Phe	Ala	Cys	Val	Ser	Phe	Gly	Phe	Pro	Val	Ile	Leu
		35					40					45			
Val	Gly	Gly	Ala	Ile	Leu	Leu	Thr	Gly	Ile	Val	Cys	Thr	Val	Val	Leu
	50					55					60				
Asn	Glu	Ile	Asp	Ala	Gln	Cys	His	Leu	Ser	Glu	Lys	Leu	Lys	Tyr	Ala
65					70					75					80
Ile	Arg	Asp	Gly	Leu	Lys	Arg	Gln	Gln	Glu	Leu	Asp	Lys	Trp	Lys	Arg

				85					90					95			
Glu	Asn	Met	Thr	Pro	Phe	Met	Tyr	Val	Leu	Asn	Thr	Pro	Pro	Val	Ile		
			100					105						110			

<210> 290
 <211> 193
 <212> PRT
 <213> E. Coli

<400> 290

Met	Thr	Asp	Tyr	Leu	Leu	Leu	Phe	Val	Gly	Thr	Val	Leu	Val	Asn	Asn		
1				5					10					15			
Phe	Val	Leu	Val	Lys	Phe	Leu	Gly	Leu	Cys	Pro	Phe	Met	Gly	Val	Ser		
			20					25					30				
Lys	Lys	Leu	Glu	Thr	Ala	Met	Gly	Met	Gly	Leu	Ala	Thr	Thr	Phe	Val		
			35				40					45					
Met	Thr	Leu	Ala	Ser	Ile	Cys	Ala	Trp	Leu	Ile	Asp	Thr	Trp	Ile	Leu		
			50			55					60						
Ile	Pro	Leu	Asn	Leu	Ile	Tyr	Leu	Arg	Thr	Leu	Ala	Phe	Ile	Leu	Val		
65					70					75					80		
Ile	Ala	Val	Val	Val	Gln	Phe	Thr	Glu	Met	Val	Val	Arg	Lys	Thr	Ser		
				85					90					95			
Pro	Val	Leu	Tyr	Arg	Leu	Leu	Gly	Ile	Phe	Leu	Pro	Leu	Ile	Thr	Thr		
			100					105						110			
Asn	Cys	Ala	Val	Leu	Gly	Val	Ala	Leu	Leu	Asn	Ile	Asn	Leu	Gly	His		
		115					120					125					
Asn	Phe	Leu	Gln	Ser	Ala	Leu	Tyr	Gly	Phe	Ser	Ala	Ala	Val	Gly	Phe		
		130				135					140						
Ser	Leu	Val	Met	Val	Leu	Phe	Ala	Ala	Ile	Arg	Glu	Arg	Leu	Ala	Val		
145					150					155					160		
Ala	Asp	Val	Pro	Ala	Pro	Phe	Arg	Gly	Asn	Ala	Ile	Ala	Leu	Ile	Thr		
				165					170					175			
Ala	Gly	Leu	Met	Ser	Leu	Ala	Phe	Met	Gly	Phe	Ser	Gly	Leu	Val	Lys		
			180					185						190			

Leu

<210> 291
 <211> 192
 <212> PRT
 <213> E. Coli

<400> 291

Met	Asn	Ala	Ile	Trp	Ile	Ala	Val	Ala	Ala	Val	Ser	Leu	Leu	Gly	Leu		
1				5					10					15			
Ala	Phe	Gly	Ala	Ile	Leu	Gly	Tyr	Ala	Ser	Arg	Arg	Phe	Ala	Val	Glu		
			20					25					30				
Asp	Asp	Pro	Val	Val	Glu	Lys	Ile	Asp	Glu	Ile	Leu	Pro	Gln	Ser	Gln		
			35				40					45					
Cys	Gly	Gln	Cys	Gly	Tyr	Pro	Gly	Cys	Arg	Pro	Tyr	Ala	Glu	Ala	Ile		
			50			55					60						
Ser	Cys	Asn	Gly	Glu	Lys	Ile	Asn	Arg	Cys	Ala	Pro	Gly	Gly	Glu	Ala		
65					70					75					80		
Val	Met	Leu	Lys	Ile	Ala	Glu	Leu	Leu	Asn	Val	Glu	Pro	Gln	Pro	Leu		

Gly	Glu	Pro	Ile	Thr	Glu	Arg	Val	Val	Thr	Leu	Thr	Gly	Glu	Ala	Ile
290						295					300				
Ala	Arg	Pro	Gly	Asn	Val	Trp	Ala	Arg	Leu	Gly	Thr	Pro	Val	Arg	His
305					310					315					320
Leu	Leu	Asn	Asp	Ala	Gly	Phe	Cys	Pro	Ser	Ala	Asp	Gln	Met	Val	Ile
				325					330					335	
Met	Gly	Gly	Pro	Leu	Met	Gly	Phe	Thr	Leu	Pro	Trp	Leu	Asp	Val	Pro
			340					345					350		
Val	Val	Lys	Ile	Thr	Asn	Cys	Leu	Leu	Ala	Pro	Ser	Ala	Asn	Glu	Leu
		355					360					365			
Gly	Glu	Pro	Gln	Glu	Glu	Gln	Ser	Cys	Ile	Arg	Cys	Ser	Ala	Cys	Ala
	370					375					380				
Asp	Ala	Cys	Pro	Ala	Asp	Leu	Leu	Pro	Gln	Gln	Leu	Tyr	Trp	Phe	Ser
385					390					395					400
Lys	Gly	Gln	Gln	His	Asp	Lys	Ala	Thr	Thr	His	Asn	Ile	Ala	Asp	Cys
				405					410					415	
Ile	Glu	Cys	Gly	Ala	Cys	Ala	Trp	Val	Cys	Pro	Ser	Asn	Ile	Pro	Leu
			420					425					430		
Val	Gln	Tyr	Phe	Arg	Gln	Glu	Lys	Ala	Glu	Ile	Ala	Ala	Ile	Arg	Gln
		435					440					445			
Glu	Glu	Lys	Arg	Ala	Ala	Glu	Ala	Lys	Ala	Arg	Phe	Glu	Ala	Arg	Gln
	450					455					460				
Ala	Arg	Leu	Glu	Arg	Glu	Lys	Ala	Ala	Arg	Leu	Glu	Arg	His	Lys	Ser
465					470					475					480
Ala	Ala	Val	Gln	Pro	Ala	Ala	Lys	Asp	Lys	Asp	Ala	Ile	Ala	Ala	Ala
				485					490					495	
Leu	Ala	Arg	Val	Lys	Glu	Lys	Gln	Ala	Gln	Ala	Thr	Gln	Pro	Ile	Val
			500					505					510		
Ile	Lys	Ala	Gly	Glu	Arg	Pro	Asp	Asn	Ser	Ala	Ile	Ile	Ala	Ala	Arg
		515					520					525			
Glu	Ala	Arg	Lys	Ala	Gln	Ala	Arg	Ala	Lys	Gln	Ala	Glu	Leu	Gln	Gln
	530					535					540				
Thr	Asn	Asp	Ala	Ala	Thr	Val	Ala	Asp	Pro	Arg	Lys	Thr	Ala	Val	Glu
545					550					555					560
Ala	Ala	Ile	Ala	Arg	Ala	Lys	Ala	Arg	Lys	Leu	Glu	Gln	Gln	Gln	Ala
				565					570					575	
Asn	Ala	Glu	Pro	Glu	Gln	Gln	Val	Asp	Pro	Arg	Lys	Ala	Ala	Val	Glu
			580					585					590		
Ala	Ala	Ile	Ala	Arg	Ala	Lys	Ala	Arg	Lys	Leu	Glu	Gln	Gln	Gln	Ala
		595					600					605			
Asn	Ala	Glu	Pro	Glu	Glu	Gln	Val	Asp	Pro	Arg	Lys	Ala	Ala	Val	Glu
	610					615					620				
Ala	Ala	Ile	Ala	Arg	Ala	Lys	Ala	Arg	Lys	Leu	Glu	Gln	Gln	Gln	Ala
625					630					635					640
Asn	Ala	Glu	Pro	Glu	Gln	Gln	Val	Asp	Pro	Arg	Lys	Ala	Ala	Val	Glu
				645					650					655	
Ala	Ala	Ile	Ala	Arg	Ala	Lys	Ala	Arg	Lys	Arg	Glu	Gln	Gln	Pro	Ala
			660					665					670		
Asn	Ala	Glu	Pro	Glu	Glu	Gln	Val	Asp	Pro	Arg	Lys	Ala	Ala	Val	Glu
		675					680					685			
Ala	Ala	Ile	Ala	Arg	Ala	Lys	Ala	Arg	Lys	Leu	Glu	Gln	Gln	Gln	Ala
	690					695					700				
Asn	Ala	Val	Pro	Glu	Glu	Gln	Val	Asp	Pro	Arg	Lys	Ala	Ala	Val	Ala
705					710					715					720
Ala	Ala	Ile	Ala	Arg	Ala	Gln	Ala	Lys	Lys	Ala	Ala	Gln	Gln	Lys	Val
				725					730					735	
Val	Asn	Glu	Asp												

740

<210> 293
 <211> 352
 <212> PRT
 <213> E. Coli

<400> 293
 Met Val Phe Arg Ile Ala Ser Ser Pro Tyr Thr His Asn Gln Arg Gln
 1 5 10 15
 Thr Ser Arg Ile Met Leu Leu Val Leu Leu Ala Ala Val Pro Gly Ile
 20 25 30
 Ala Ala Gln Leu Trp Phe Phe Gly Trp Gly Thr Leu Val Gln Ile Leu
 35 40 45
 Leu Ala Ser Val Ser Ala Leu Leu Ala Glu Ala Leu Val Leu Lys Leu
 50 55 60
 Arg Lys Gln Ser Val Ala Ala Thr Leu Lys Asp Asn Ser Ala Leu Leu
 65 70 75 80
 Thr Gly Leu Leu Leu Ala Val Ser Ile Pro Pro Leu Ala Pro Trp Trp
 85 90 95
 Met Val Val Leu Gly Thr Val Phe Ala Val Ile Ile Ala Lys Gln Leu
 100 105 110
 Tyr Gly Gly Leu Gly Gln Asn Pro Phe Asn Pro Ala Met Ile Gly Tyr
 115 120 125
 Val Val Leu Leu Ile Ser Phe Pro Val Gln Met Thr Ser Trp Leu Pro
 130 135 140
 Pro His Glu Ile Ala Val Asn Ile Pro Gly Phe Ile Asp Ala Ile Gln
 145 150 155 160
 Val Ile Phe Ser Gly His Thr Ala Ser Gly Gly Asp Met Asn Thr Leu
 165 170 175
 Arg Leu Gly Ile Asp Gly Ile Ser Gln Ala Thr Pro Leu Asp Thr Phe
 180 185 190
 Lys Thr Ser Val Arg Ala Gly His Ser Val Glu Gln Ile Met Gln Tyr
 195 200 205
 Pro Ile Tyr Ser Gly Ile Leu Ala Gly Ala Gly Trp Gln Trp Val Asn
 210 215 220
 Leu Ala Trp Leu Ala Gly Gly Val Trp Leu Leu Trp Gln Lys Ala Ile
 225 230 235 240
 Arg Trp His Ile Pro Leu Ser Phe Leu Val Thr Leu Ala Leu Cys Ala
 245 250 255
 Met Leu Gly Trp Leu Phe Ser Pro Glu Thr Leu Ala Ala Pro Gln Ile
 260 265 270
 His Leu Leu Ser Gly Ala Thr Met Leu Gly Ala Phe Phe Ile Leu Thr
 275 280 285
 Asp Pro Val Thr Ala Ser Thr Thr Asn Arg Gly Arg Leu Ile Phe Gly
 290 295 300
 Ala Leu Ala Gly Leu Leu Val Trp Leu Ile Arg Ser Phe Gly Gly Tyr
 305 310 315 320
 Pro Asp Gly Val Ala Phe Ala Val Leu Leu Ala Asn Ile Thr Val Pro
 325 330 335
 Leu Ile Asp Tyr Tyr Thr Arg Pro Arg Val Tyr Gly His Arg Lys Gly
 340 345 350

<210> 294

<211> 206
 <212> PRT
 <213> E. Coli

<400> 294
 Met Leu Lys Thr Ile Arg Lys His Gly Ile Thr Leu Ala Leu Phe Ala
 1 5 10 15
 Ala Gly Ser Thr Gly Leu Thr Ala Ala Ile Asn Gln Met Thr Lys Thr
 20 25 30
 Thr Ile Ala Glu Gln Ala Ser Leu Gln Gln Lys Ala Leu Phe Asp Gln
 35 40 45
 Val Leu Pro Ala Glu Arg Tyr Asn Asn Ala Leu Ala Gln Ser Cys Tyr
 50 55 60
 Leu Val Thr Ala Pro Glu Leu Gly Lys Gly Glu His Arg Val Tyr Ile
 65 70 75 80
 Ala Lys Gln Asp Asp Lys Pro Val Ala Ala Val Leu Glu Ala Thr Ala
 85 90 95
 Pro Asp Gly Tyr Ser Gly Ala Ile Gln Leu Leu Val Gly Ala Asp Phe
 100 105 110
 Asn Gly Thr Val Leu Gly Thr Arg Val Thr Glu His His Glu Thr Pro
 115 120 125
 Gly Leu Gly Asp Lys Ile Glu Leu Arg Leu Ser Asp Trp Ile Thr His
 130 135 140
 Phe Ala Gly Lys Lys Ile Ser Gly Ala Asp Asp Ala His Trp Ala Val
 145 150 155 160
 Lys Lys Asp Gly Gly Asp Phe Asp Gln Phe Thr Gly Ala Thr Ile Thr
 165 170 175
 Pro Arg Ala Val Val Asn Ala Val Lys Arg Ala Gly Leu Tyr Ala Gln
 180 185 190
 Thr Leu Pro Ala Gln Leu Ser Gln Leu Pro Ala Cys Gly Glu
 195 200 205

<210> 295
 <211> 231
 <212> PRT
 <213> E. Coli

<400> 295
 Met Ser Glu Ile Lys Asp Val Ile Val Gln Gly Leu Trp Lys Asn Asn
 1 5 10 15
 Ser Ala Leu Val Gln Leu Leu Gly Leu Cys Pro Leu Leu Ala Val Thr
 20 25 30
 Ser Thr Ala Thr Asn Ala Leu Gly Leu Gly Leu Ala Thr Thr Leu Val
 35 40 45
 Leu Thr Leu Thr Asn Leu Thr Ile Ser Thr Leu Arg His Trp Thr Pro
 50 55 60
 Ala Glu Ile Arg Ile Pro Ile Tyr Val Met Ile Ile Ala Ser Val Val
 65 70 75 80
 Ser Ala Val Gln Met Leu Ile Asn Ala Tyr Ala Phe Gly Leu Tyr Gln
 85 90 95
 Ser Leu Gly Ile Phe Ile Pro Leu Ile Val Thr Asn Cys Ile Val Val
 100 105 110
 Gly Arg Ala Glu Ala Phe Ala Ala Lys Lys Gly Pro Ala Leu Ser Ala
 115 120 125
 Leu Asp Gly Phe Ser Ile Gly Met Gly Ala Thr Cys Ala Met Phe Val
 130 135 140

Leu Gly Ser Leu Arg Glu Ile Ile Gly Asn Gly Thr Leu Phe Asp Gly
 145 150 155 160
 Ala Asp Ala Leu Leu Gly Ser Trp Ala Lys Val Leu Arg Val Glu Ile
 165 170 175
 Phe His Thr Asp Ser Pro Phe Leu Leu Ala Met Leu Pro Pro Gly Ala
 180 185 190
 Phe Ile Gly Leu Gly Leu Met Leu Ala Gly Lys Tyr Leu Ile Asp Glu
 195 200 205
 Arg Met Lys Lys Arg Arg Ala Glu Ala Ala Ala Glu Arg Ala Leu Pro
 210 215 220
 Asn Gly Glu Thr Gly Asn Val
 225 230

<210> 296
 <211> 211
 <212> PRT
 <213> E. Coli

<400> 296
 Met Asn Lys Ala Lys Arg Leu Glu Ile Leu Thr Arg Leu Arg Glu Asn
 1 5 10 15
 Asn Pro His Pro Thr Thr Glu Leu Asn Phe Ser Ser Pro Phe Glu Leu
 20 25 30
 Leu Ile Ala Val Leu Leu Ser Ala Gln Ala Thr Asp Val Ser Val Asn
 35 40 45
 Lys Ala Thr Ala Lys Leu Tyr Pro Val Ala Asn Thr Pro Ala Ala Met
 50 55 60
 Leu Glu Leu Gly Val Glu Gly Val Lys Thr Tyr Ile Lys Thr Ile Gly
 65 70 75 80
 Leu Tyr Asn Ser Lys Ala Glu Asn Ile Ile Lys Thr Cys Arg Ile Leu
 85 90 95
 Leu Glu Gln His Asn Gly Glu Val Pro Glu Asp Arg Ala Ala Leu Glu
 100 105 110
 Ala Leu Pro Gly Val Gly Arg Lys Thr Ala Asn Val Val Leu Asn Thr
 115 120 125
 Ala Phe Gly Trp Pro Thr Ile Ala Val Asp Thr His Ile Phe Arg Val
 130 135 140
 Cys Asn Arg Thr Gln Phe Ala Pro Gly Lys Asn Val Glu Gln Val Glu
 145 150 155 160
 Glu Lys Leu Leu Lys Val Val Pro Ala Glu Phe Lys Val Asp Cys His
 165 170 175
 His Trp Leu Ile Leu His Gly Arg Tyr Thr Cys Ile Ala Arg Lys Pro
 180 185 190
 Arg Cys Gly Ser Cys Ile Ile Glu Asp Leu Cys Glu Tyr Lys Glu Lys
 195 200 205
 Val Asp Ile
 210

<210> 297
 <211> 167
 <212> PRT
 <213> E. Coli

<400> 297
 Met Lys Arg Leu His Lys Arg Phe Leu Leu Ala Thr Phe Cys Ala Leu

1		5		10		15									
Phe	Thr	Ala	Thr	Leu	Gln	Ala	Ala	Asp	Val	Thr	Ile	Thr	Val	Asn	Gly
		20						25					30		
Arg	Val	Val	Ala	Lys	Pro	Cys	Thr	Ile	Gln	Thr	Lys	Glu	Ala	Asn	Val
		35					40					45			
Asn	Leu	Gly	Asp	Leu	Tyr	Thr	Arg	Asn	Leu	Gln	Gln	Pro	Gly	Ser	Ala
	50					55					60				
Ser	Gly	Trp	His	Asn	Ile	Thr	Leu	Ser	Leu	Thr	Asp	Cys	Pro	Val	Glu
65					70					75					80
Thr	Ser	Ala	Val	Thr	Ala	Ile	Val	Thr	Gly	Ser	Thr	Asp	Asn	Thr	Gly
				85					90					95	
Tyr	Tyr	Lys	Asn	Glu	Gly	Thr	Ala	Glu	Asn	Ile	Gln	Ile	Glu	Leu	Arg
			100					105					110		
Asp	Asp	Gln	Asp	Ala	Ala	Leu	Lys	Asn	Gly	Asp	Ser	Lys	Thr	Val	Ile
		115					120					125			
Val	Asp	Glu	Ile	Thr	Arg	Asn	Ala	Gln	Phe	Pro	Leu	Lys	Ala	Arg	Ala
	130					135					140				
Ile	Thr	Val	Asn	Gly	Asn	Ala	Ser	Gln	Gly	Thr	Ile	Glu	Ala	Leu	Ile
145					150					155					160
Asn	Val	Ile	Tyr	Thr	Trp	Gln									
				165											

<210> 298

<211> 176

<212> PRT

<213> E. Coli

<400> 298

Met	Lys	Tyr	Asn	Asn	Ile	Ile	Phe	Leu	Gly	Leu	Cys	Leu	Gly	Leu	Thr
1				5					10					15	
Thr	Tyr	Ser	Ala	Leu	Ser	Ala	Asp	Ser	Val	Ile	Lys	Ile	Ser	Gly	Arg
			20					25					30		
Val	Leu	Asp	Tyr	Gly	Cys	Thr	Val	Ser	Ser	Asp	Ser	Leu	Asn	Phe	Thr
		35				40						45			
Val	Asp	Leu	Gln	Lys	Asn	Ser	Ala	Arg	Gln	Phe	Pro	Thr	Thr	Gly	Ser
	50				55						60				
Thr	Ser	Pro	Ala	Val	Pro	Phe	Gln	Ile	Thr	Leu	Ser	Glu	Cys	Ser	Lys
65					70					75					80
Gly	Thr	Thr	Gly	Val	Arg	Val	Ala	Phe	Asn	Gly	Ile	Glu	Asp	Ala	Glu
				85					90					95	
Asn	Asn	Thr	Leu	Leu	Lys	Leu	Asp	Glu	Gly	Ser	Asn	Thr	Ala	Ser	Gly
			100					105					110		
Leu	Gly	Ile	Glu	Ile	Leu	Asp	Ala	Asn	Met	Arg	Pro	Val	Lys	Leu	Asn
		115					120					125			
Asp	Leu	His	Ala	Gly	Met	Gln	Trp	Ile	Pro	Leu	Val	Pro	Glu	Gln	Asn
	130					135					140				
Asn	Ile	Leu	Pro	Tyr	Ser	Ala	Arg	Leu	Lys	Ser	Thr	Gln	Lys	Ser	Val
145					150					155					160
Asn	Pro	Gly	Leu	Val	Arg	Ala	Ser	Ala	Thr	Phe	Thr	Leu	Glu	Phe	Gln
				165					170					175	

<210> 299

<211> 382

<212> PRT

<213> E. Coli

<400> 299

Met	Ser	Gly	Tyr	Thr	Val	Lys	Pro	Pro	Thr	Gly	Asp	Thr	Asn	Glu	Gln
1				5					10					15	
Thr	Gln	Phe	Ile	Asp	Tyr	Phe	Asn	Leu	Phe	Tyr	Ser	Lys	Arg	Gly	Gln
			20					25					30		
Glu	Gln	Ile	Ser	Ile	Ser	Gln	Gln	Leu	Gly	Asn	Tyr	Gly	Thr	Thr	Phe
		35					40					45			
Phe	Ser	Ala	Ser	Arg	Gln	Ser	Tyr	Trp	Asn	Thr	Ser	Arg	Ser	Asp	Gln
	50					55					60				
Gln	Ile	Ser	Phe	Gly	Leu	Asn	Val	Pro	Phe	Gly	Asp	Ile	Thr	Thr	Ser
65					70					75					80
Leu	Asn	Tyr	Ser	Tyr	Ser	Asn	Asn	Ile	Trp	Gln	Asn	Asp	Arg	Asp	His
			85						90					95	
Leu	Leu	Ala	Phe	Thr	Leu	Asn	Val	Pro	Phe	Ser	His	Trp	Met	Arg	Thr
			100					105					110		
Asp	Ser	Gln	Ser	Ala	Phe	Arg	Asn	Ser	Asn	Ala	Ser	Tyr	Ser	Met	Ser
	115						120					125			
Asn	Asp	Leu	Lys	Gly	Gly	Met	Thr	Asn	Leu	Ser	Gly	Val	Tyr	Gly	Thr
	130					135					140				
Leu	Leu	Pro	Asp	Asn	Asn	Leu	Asn	Tyr	Ser	Val	Gln	Val	Gly	Asn	Thr
145					150					155					160
His	Gly	Gly	Asn	Thr	Ser	Ser	Gly	Thr	Ser	Gly	Tyr	Ser	Ser	Leu	Asn
			165						170					175	
Tyr	Arg	Gly	Ala	Tyr	Gly	Asn	Thr	Asn	Val	Gly	Tyr	Ser	Arg	Ser	Gly
			180					185					190		
Asp	Ser	Ser	Gln	Ile	Tyr	Tyr	Gly	Met	Ser	Gly	Gly	Ile	Ile	Ala	His
	195						200					205			
Ala	Asp	Gly	Ile	Thr	Phe	Gly	Gln	Pro	Leu	Gly	Asp	Thr	Met	Val	Leu
	210					215					220				
Val	Lys	Ala	Pro	Gly	Ala	Asp	Asn	Val	Lys	Ile	Glu	Asn	Gln	Thr	Gly
225					230					235					240
Ile	His	Thr	Asp	Trp	Arg	Gly	Tyr	Ala	Ile	Leu	Pro	Phe	Ala	Thr	Glu
			245					250						255	
Tyr	Arg	Glu	Asn	Arg	Val	Ala	Leu	Asn	Ala	Asn	Ser	Leu	Ala	Asp	Asn
			260				265						270		
Val	Glu	Leu	Asp	Glu	Thr	Val	Val	Thr	Val	Ile	Pro	Thr	His	Gly	Ala
	275					280						285			
Ile	Ala	Arg	Ala	Thr	Phe	Asn	Ala	Gln	Ile	Gly	Gly	Lys	Val	Leu	Met
	290					295					300				
Thr	Leu	Lys	Tyr	Gly	Asn	Lys	Ser	Val	Pro	Phe	Gly	Ala	Ile	Val	Thr
305					310					315					320
His	Gly	Glu	Asn	Lys	Asn	Gly	Ser	Ile	Val	Ala	Glu	Asn	Gly	Gln	Val
			325						330					335	
Tyr	Leu	Thr	Gly	Leu	Pro	Gln	Ser	Gly	Gln	Leu	Gln	Val	Ser	Trp	Gly
			340					345					350		
Lys	Asp	Lys	Asn	Ser	Asn	Cys	Ile	Val	Glu	Tyr	Lys	Leu	Pro	Glu	Val
	355					360						365			
Ser	Pro	Gly	Thr	Leu	Leu	Asn	Gln	Gln	Thr	Ala	Ile	Cys	Arg		
	370					375						380			

<210> 300

<211> 138

<212> PRT

<213> E. Coli

<400> 300

```
Met Ile Ala Ile Ala Asp Ile Leu Gln Ala Gly Glu Lys Leu Thr Ala
 1           5           10           15
Val Ala Pro Phe Leu Ala Gly Ile Gln Asn Glu Glu Gln Tyr Thr Gln
          20           25           30
Ala Leu Glu Leu Val Asp His Leu Leu Asn Asp Pro Glu Asn Pro
      35           40           45
Leu Leu Asp Leu Val Cys Ala Lys Ile Thr Ala Trp Glu Glu Ser Ala
      50           55           60
Pro Glu Phe Ala Glu Phe Asn Ala Met Ala Gln Ala Met Pro Gly Gly
65           70           75           80
Ile Ala Val Ile Arg Thr Leu Met Asp Gln Tyr Gly Leu Thr Leu Ser
          85           90           95
Asp Leu Pro Glu Ile Gly Ser Lys Ser Met Val Ser Arg Val Leu Ser
          100          105          110
Gly Lys Arg Lys Leu Thr Leu Glu His Ala Lys Lys Leu Ala Thr Arg
      115           120          125
Phe Gly Ile Ser Pro Ala Leu Phe Ile Asp
130           135
```

<210> 301

<211> 104

<212> PRT

<213> E. Coli

<400> 301

```
Met His Leu Ile Thr Gln Lys Ala Leu Lys Asp Ala Ala Glu Lys Tyr
 1           5           10           15
Pro Gln His Lys Thr Glu Leu Val Ala Leu Gly Asn Thr Ile Ala Lys
          20           25           30
Gly Tyr Phe Lys Lys Pro Glu Ser Leu Lys Ala Val Phe Pro Ser Leu
      35           40           45
Asp Asn Phe Lys Tyr Leu Asp Lys His Tyr Val Phe Asn Val Gly Gly
      50           55           60
Asn Glu Leu Arg Val Val Ala Met Val Phe Phe Glu Ser Gln Lys Cys
65           70           75           80
Tyr Ile Arg Glu Val Met Thr His Lys Glu Tyr Asp Phe Phe Thr Ala
          85           90           95
Val His Arg Thr Lys Gly Lys Lys
          100
```

<210> 302

<211> 2383

<212> PRT

<213> E. Coli

<400> 302

```
Met Leu Ser Val Phe Thr Phe Phe Arg Cys Ala Arg Lys Gly Ala Phe
 1           5           10           15
Met Leu Ala Arg Ser Gly Lys Val Ser Met Ala Thr Lys Lys Arg Ser
          20           25           30
Gly Glu Glu Ile Asn Asp Arg Gln Ile Leu Cys Gly Met Gly Ile Lys
```


Ala	Gly	Gly	Lys	Val	Val	Thr	Thr	Gly	Lys	Asp	Ile	Leu	Val	Thr	Leu	500	505	510
Pro	Ala	Tyr	Arg	Phe	Thr	Ser	Thr	Pro	Glu	Thr	Asp	Asn	Thr	Trp	Pro	515	520	525
Ile	Glu	Val	Thr	Ala	Glu	Asp	Val	Lys	Gly	Asn	Leu	Ser	Asn	Arg	Glu	530	535	540
Gln	Ser	Met	Val	Val	Val	Gln	Ala	Pro	Thr	Leu	Ser	Gln	Lys	Asp	Ser	545	550	555
Ser	Val	Ser	Leu	Ser	Thr	Gln	Thr	Leu	Asn	Ala	Asp	Ser	His	Ser	Thr	565	570	575
Ala	Thr	Leu	Thr	Phe	Ile	Ala	His	Asp	Ala	Ala	Gly	Asn	Pro	Val	Val	580	585	590
Gly	Leu	Val	Leu	Ser	Thr	Arg	His	Glu	Gly	Val	Gln	Asp	Ile	Thr	Leu	595	600	605
Ser	Asp	Trp	Lys	Asp	Asn	Gly	Asp	Gly	Ser	Tyr	Thr	Gln	Ile	Leu	Thr	610	615	620
Thr	Gly	Ala	Met	Ser	Gly	Thr	Leu	Thr	Leu	Met	Pro	Gln	Leu	Asn	Gly	625	630	635
Val	Asp	Ala	Ala	Lys	Ala	Pro	Ala	Val	Val	Asn	Ile	Ile	Ser	Val	Ser	645	650	655
Ser	Ser	Arg	Thr	His	Ser	Ser	Ile	Lys	Ile	Asp	Lys	Asp	Arg	Tyr	Leu	660	665	670
Ser	Gly	Asn	Pro	Ile	Glu	Val	Thr	Val	Glu	Leu	Arg	Asp	Glu	Asn	Asp	675	680	685
Lys	Pro	Val	Lys	Glu	Gln	Lys	Gln	Gln	Leu	Asn	Asn	Ala	Val	Ser	Ile	690	695	700
Asp	Asn	Val	Lys	Pro	Gly	Val	Thr	Thr	Asp	Trp	Lys	Glu	Thr	Ala	Asp	705	710	715
Gly	Val	Tyr	Lys	Ala	Thr	Tyr	Thr	Ala	Tyr	Thr	Lys	Gly	Ser	Gly	Leu	725	730	735
Thr	Ala	Lys	Leu	Leu	Met	Gln	Asn	Trp	Asn	Glu	Asp	Leu	His	Thr	Ala	740	745	750
Gly	Phe	Ile	Ile	Asp	Ala	Asn	Pro	Gln	Ser	Ala	Lys	Ile	Ala	Thr	Leu	755	760	765
Ser	Ala	Ser	Asn	Asn	Gly	Val	Leu	Ala	Asn	Glu	Asn	Ala	Ala	Asn	Thr	770	775	780
Val	Ser	Val	Asn	Val	Ala	Asp	Glu	Gly	Ser	Asn	Pro	Ile	Asn	Asp	His	785	790	795
Thr	Val	Thr	Phe	Ala	Val	Leu	Ser	Gly	Ser	Ala	Thr	Ser	Phe	Asn	Asn	805	810	815
Gln	Asn	Thr	Ala	Lys	Thr	Asp	Val	Asn	Gly	Leu	Ala	Thr	Phe	Asp	Leu	820	825	830
Lys	Ser	Ser	Lys	Gln	Glu	Asp	Asn	Thr	Val	Glu	Val	Thr	Leu	Glu	Asn	835	840	845
Gly	Val	Lys	Gln	Thr	Leu	Ile	Val	Ser	Phe	Val	Gly	Asp	Ser	Ser	Thr	850	855	860
Ala	Gln	Val	Asp	Leu	Gln	Lys	Ser	Lys	Asn	Glu	Val	Val	Ala	Asp	Gly	865	870	875
Asn	Asp	Ser	Val	Thr	Met	Thr	Ala	Thr	Val	Arg	Asp	Ala	Lys	Gly	Asn	885	890	895
Leu	Leu	Asn	Asp	Val	Met	Val	Thr	Phe	Asn	Val	Asn	Ser	Ala	Glu	Ala	900	905	910
Lys	Leu	Ser	Gln	Thr	Glu	Val	Asn	Ser	His	Asp	Gly	Ile	Ala	Thr	Ala	915	920	925
Thr	Leu	Thr	Ser	Leu	Lys	Asn	Gly	Asp	Tyr	Arg	Val	Thr	Ala	Ser	Val	930	935	940
Ser	Ser	Gly	Ser	Gln	Ala	Asn	Gln	Gln	Val	Asn	Phe	Ile	Gly	Asp	Gln			

945		950		955		960
Ser Thr Ala Ala Leu Thr Leu Ser Val Pro Ser Gly Asp Ile Thr Val						
	965		970		975	
Thr Asn Thr Ala Pro Gln Tyr Met Thr Ala Thr Leu Gln Asp Lys Asn						
	980		985		990	
Gly Asn Pro Leu Lys Asp Lys Glu Ile Thr Phe Ser Val Pro Asn Asp						
	995		1000		1005	
Val Ala Ser Lys Phe Ser Ile Ser Asn Gly Gly Lys Gly Met Thr Asp						
	1010		1015		1020	
Ser Asn Gly Val Ala Ile Ala Ser Leu Thr Gly Thr Leu Ala Gly Thr						
	1025		1030		1035	
His Met Ile Met Ala Arg Leu Ala Asn Ser Asn Val Ser Asp Ala Gln						
	1045		1050		1055	
Pro Met Thr Phe Val Ala Asp Lys Asp Arg Ala Val Val Val Leu Gln						
	1060		1065		1070	
Thr Ser Lys Ala Glu Ile Ile Gly Asn Gly Val Asp Glu Thr Thr Leu						
	1075		1080		1085	
Thr Ala Thr Val Lys Asp Pro Ser Asn His Pro Val Ala Gly Ile Thr						
	1090		1095		1100	
Val Asn Phe Thr Met Pro Gln Asp Val Ala Asn Phe Thr Leu Glu						
	1105		1110		1115	
Asn Asn Gly Ile Ala Ile Thr Gln Ala Asn Gly Glu Ala His Val Thr						
	1125		1130		1135	
Leu Lys Gly Lys Lys Ala Gly Thr His Thr Val Thr Ala Thr Leu Gly						
	1140		1145		1150	
Asn Asn Asn Thr Ser Asp Ser Gln Pro Val Thr Phe Val Ala Asp Lys						
	1155		1160		1165	
Ala Ser Ala Gln Val Val Leu Gln Ile Ser Lys Asp Glu Ile Thr Gly						
	1170		1175		1180	
Asn Gly Val Asp Ser Ala Thr Leu Thr Ala Thr Val Lys Asp Gln Phe						
	1185		1190		1195	
Asp Asn Glu Val Asn Asn Leu Pro Val Thr Phe Ser Ser Ala Ser Ser						
	1205		1210		1215	
Gly Leu Thr Leu Thr Pro Gly Val Ser Asn Thr Asn Glu Ser Gly Ile						
	1220		1225		1230	
Ala Gln Ala Thr Leu Ala Gly Val Ala Phe Gly Glu Lys Thr Val Thr						
	1235		1240		1245	
Ala Ser Leu Ala Asn Asn Gly Ala Ser Asp Asn Lys Thr Val His Phe						
	1250		1255		1260	
Ile Gly Asp Thr Ala Ala Lys Ile Ile Glu Leu Ala Pro Val Pro						
	1265		1270		1275	
Asp Ser Ile Ile Ala Gly Thr Pro Gln Asn Ser Ser Gly Ser Val Ile						
	1285		1290		1295	
Thr Ala Thr Val Val Asp Asn Asn Gly Phe Pro Val Lys Gly Val Thr						
	1300		1305		1310	
Val Asn Phe Thr Ser Asn Ala Ala Thr Ala Glu Met Thr Asn Gly Gly						
	1315		1320		1325	
Gln Ala Val Thr Asn Glu Gln Gly Lys Ala Thr Val Thr Tyr Thr Asn						
	1330		1335		1340	
Thr Arg Ser Ser Ile Glu Ser Gly Ala Arg Pro Asp Thr Val Glu Ala						
	1345		1350		1355	
Ser Leu Glu Asn Gly Ser Ser Thr Leu Ser Thr Ser Ile Asn Val Asn						
	1365		1370		1375	
Ala Asp Ala Ser Thr Ala His Leu Thr Leu Leu Gln Ala Leu Phe Asp						
	1380		1385		1390	
Thr Val Ser Ala Gly Glu Thr Thr Ser Leu Tyr Ile Glu Val Lys Asp						
	1395		1400		1405	

Asn Tyr Gly Asn Gly Val Pro Gln Gln Glu Val Thr Leu Ser Val Ser
 1410 1415 1420
 Pro Ser Glu Gly Val Thr Pro Ser Asn Asn Ala Ile Tyr Thr Thr Asn
 1425 1430 1435 1440
 His Asp Gly Asn Phe Tyr Ala Ser Phe Thr Ala Thr Lys Ala Gly Val
 1445 1450 1455
 Tyr Gln Leu Thr Ala Thr Leu Glu Asn Gly Asp Ser Met Gln Gln Thr
 1460 1465 1470
 Val Thr Tyr Val Pro Asn Val Ala Asn Ala Glu Ile Thr Leu Ala Ala
 1475 1480 1485
 Ser Lys Asp Pro Val Ile Ala Asp Asn Asn Asp Leu Thr Thr Leu Thr
 1490 1495 1500
 Ala Thr Val Ala Asp Thr Glu Gly Asn Ala Ile Ala Asn Thr Glu Val
 1505 1510 1515 1520
 Thr Phe Thr Leu Pro Glu Asp Val Lys Ala Asn Phe Thr Leu Ser Asp
 1525 1530 1535
 Gly Gly Lys Val Ile Thr Asp Ala Glu Gly Lys Ala Lys Val Thr Leu
 1540 1545 1550
 Lys Gly Thr Lys Ala Gly Ala His Thr Val Thr Ala Ser Met Thr Gly
 1555 1560 1565
 Gly Lys Ser Glu Gln Leu Val Val Asn Phe Ile Ala Asp Thr Leu Thr
 1570 1575 1580
 Ala Gln Val Asn Leu Asn Val Thr Glu Asp Asn Phe Ile Ala Asn Asn
 1585 1590 1595 1600
 Val Gly Met Thr Arg Leu Gln Ala Thr Val Thr Asp Gly Asn Gly Asn
 1605 1610 1615
 Pro Leu Ala Asn Glu Ala Val Thr Phe Thr Leu Pro Ala Asp Val Ser
 1620 1625 1630
 Ala Ser Phe Thr Leu Gly Gln Gly Gly Ser Ala Ile Thr Asp Ile Asn
 1635 1640 1645
 Gly Lys Ala Glu Val Thr Leu Ser Gly Thr Lys Ser Gly Thr Tyr Pro
 1650 1655 1660
 Val Thr Val Ser Val Asn Asn Tyr Gly Val Ser Asp Thr Lys Gln Val
 1665 1670 1675 1680
 Thr Leu Ile Ala Asp Ala Gly Thr Ala Lys Leu Ala Ser Leu Thr Ser
 1685 1690 1695
 Val Tyr Ser Phe Val Val Ser Thr Thr Glu Gly Ala Thr Met Thr Ala
 1700 1705 1710
 Ser Val Thr Asp Ala Asn Gly Asn Pro Val Glu Gly Ile Lys Val Asn
 1715 1720 1725
 Phe Arg Gly Thr Ser Val Thr Leu Ser Ser Thr Ser Val Glu Thr Asp
 1730 1735 1740
 Asp Arg Gly Phe Ala Glu Ile Leu Val Thr Ser Thr Glu Val Gly Leu
 1745 1750 1755 1760
 Lys Thr Val Ser Ala Ser Leu Ala Asp Lys Pro Thr Glu Val Ile Ser
 1765 1770 1775
 Arg Leu Leu Asn Ala Ser Ala Asp Val Asn Ser Ala Thr Ile Thr Ser
 1780 1785 1790
 Leu Glu Ile Pro Glu Gly Gln Val Met Val Ala Gln Asp Val Ala Val
 1795 1800 1805
 Lys Ala His Val Asn Asp Gln Phe Gly Asn Pro Val Ala His Gln Pro
 1810 1815 1820
 Val Thr Phe Ser Ala Glu Pro Ser Ser Gln Met Ile Ile Ser Gln Asn
 1825 1830 1835 1840
 Thr Val Ser Thr Asn Thr Gln Gly Val Ala Glu Val Thr Met Thr Pro
 1845 1850 1855
 Glu Arg Asn Gly Ser Tyr Met Val Lys Ala Ser Leu Pro Asn Gly Ala

1860					1865					1870					
Ser	Leu	Glu	Lys	Gln	Leu	Glu	Ala	Ile	Asp	Glu	Lys	Leu	Thr	Leu	Thr
1875					1880					1885					
Ala	Ser	Ser	Pro	Leu	Ile	Gly	Val	Tyr	Ala	Pro	Thr	Gly	Ala	Thr	Leu
1890					1895					1900					
Thr	Ala	Thr	Leu	Thr	Ser	Ala	Asn	Gly	Thr	Pro	Val	Glu	Gly	Gln	Val
1905					1910					1915					
Ile	Asn	Phe	Ser	Val	Thr	Pro	Glu	Gly	Ala	Thr	Leu	Ser	Gly	Gly	Lys
1925					1930					1935					
Val	Arg	Thr	Asn	Ser	Ser	Gly	Gln	Ala	Pro	Val	Val	Leu	Thr	Ser	Asn
1940					1945					1950					
Lys	Val	Gly	Thr	Tyr	Thr	Val	Thr	Ala	Ser	Phe	His	Asn	Gly	Val	Thr
1955					1960					1965					
Ile	Gln	Thr	Gln	Thr	Thr	Val	Lys	Val	Thr	Gly	Asn	Ser	Ser	Thr	Ala
1970					1975					1980					
His	Val	Ala	Ser	Phe	Ile	Ala	Asp	Pro	Ser	Thr	Ile	Ala	Ala	Thr	Asn
1985					1990					1995					
Thr	Asp	Leu	Ser	Thr	Leu	Lys	Ala	Thr	Val	Glu	Asp	Gly	Ser	Gly	Asn
2005					2010					2015					
Leu	Ile	Glu	Gly	Leu	Thr	Val	Tyr	Phe	Ala	Leu	Lys	Ser	Gly	Ser	Ala
2020					2025					2030					
Thr	Leu	Thr	Ser	Leu	Thr	Ala	Val	Thr	Asp	Gln	Asn	Gly	Ile	Ala	Thr
2035					2040					2045					
Thr	Ser	Val	Lys	Gly	Ala	Met	Thr	Gly	Ser	Val	Thr	Val	Ser	Ala	Val
2050					2055					2060					
Thr	Thr	Ala	Gly	Gly	Met	Gln	Thr	Val	Asp	Ile	Thr	Leu	Val	Ala	Gly
2065					2070					2075					
Pro	Ala	Asp	Thr	Ser	Gln	Ser	Val	Leu	Lys	Ser	Asn	Arg	Ser	Ser	Leu
2085					2090					2095					
Lys	Gly	Asp	Tyr	Thr	Asp	Ser	Ala	Glu	Leu	Arg	Leu	Val	Leu	His	Asp
2100					2105					2110					
Ile	Ser	Gly	Asn	Pro	Ile	Lys	Val	Ser	Glu	Gly	Met	Glu	Phe	Val	Gln
2115					2120					2125					
Ser	Gly	Thr	Asn	Val	Pro	Tyr	Ile	Lys	Ile	Ser	Ala	Ile	Asp	Tyr	Ser
2130					2135					2140					
Leu	Asn	Ile	Asn	Gly	Asp	Tyr	Lys	Ala	Thr	Val	Thr	Gly	Gly	Gly	Glu
2145					2150					2155					
Gly	Ile	Ala	Thr	Leu	Ile	Pro	Val	Leu	Asn	Gly	Val	His	Gln	Ala	Gly
2165					2170					2175					
Leu	Ser	Thr	Thr	Ile	Gln	Phe	Thr	Arg	Ala	Glu	Asp	Lys	Ile	Met	Ser
2180					2185					2190					
Gly	Thr	Val	Ser	Val	Asn	Gly	Thr	Asp	Leu	Pro	Thr	Thr	Thr	Phe	Pro
2195					2200					2205					
Ser	Gln	Gly	Phe	Thr	Gly	Ala	Tyr	Tyr	Gln	Leu	Asn	Asn	Asp	Asn	Phe
2210					2215					2220					
Ala	Pro	Gly	Lys	Thr	Ala	Ala	Asp	Tyr	Glu	Phe	Ser	Ser	Ser	Ala	Ser
2225					2230					2235					
Trp	Val	Asp	Val	Asp	Ala	Thr	Gly	Lys	Val	Thr	Phe	Lys	Asn	Val	Gly
2245					2250					2255					
Ser	Asn	Ser	Glu	Arg	Ile	Thr	Ala	Thr	Pro	Lys	Ser	Gly	Gly	Pro	Ser
2260					2265					2270					
Tyr	Val	Tyr	Glu	Ile	Arg	Val	Lys	Ser	Trp	Trp	Val	Asn	Ala	Gly	Glu
2275					2280					2285					
Ala	Phe	Met	Ile	Tyr	Ser	Leu	Ala	Glu	Asn	Phe	Cys	Ser	Ser	Asn	Gly
2290					2295					2300					
Tyr	Thr	Leu	Pro	Arg	Ala	Asn	Tyr	Leu	Asn	His	Cys	Ser	Ser	Arg	Gly
2305					2310					2315					
										2320					

Ile	Gly	Ser	Leu	Tyr	Ser	Glu	Trp	Gly	Asp	Met	Gly	His	Tyr	Thr	Thr
			2325						2330					2335	
Asp	Ala	Gly	Phe	Gln	Ser	Asn	Met	Tyr	Trp	Ser	Ser	Ser	Pro	Ala	Asn
		2340						2345					2350		
Ser	Ser	Glu	Gln	Tyr	Val	Val	Ser	Leu	Ala	Thr	Gly	Asp	Gln	Ser	Val
		2355					2360					2365			
Phe	Glu	Lys	Leu	Gly	Phe	Ala	Tyr	Ala	Thr	Cys	Tyr	Lys	Asn	Leu	
	2370					2375					2380				

<210> 303
 <211> 61
 <212> PRT
 <213> E. Coli

<400> 303															
Met	Ser	Lys	Gly	Ala	Leu	Tyr	Glu	Phe	Asn	Asn	Pro	Asp	Gln	Leu	Lys
1				5					10					15	
Ile	Pro	Leu	Pro	His	Lys	His	Ile	Ala	Ser	Thr	Phe	Asn	Asp	Ile	Met
		20						25					30		
Ser	Lys	Asp	Val	Gly	Tyr	Ala	Tyr	Val	Ser	Leu	Leu	Tyr	Ala	Cys	Pro
		35					40					45			
Leu	Lys	Thr	His	Ser	Leu	Arg	Leu	Asn	Pro	Phe	Ser	Lys			
	50					55					60				

<210> 304
 <211> 398
 <212> PRT
 <213> E. Coli

<400> 304															
Met	Gln	Val	Ala	Glu	Gln	Arg	Ile	Gln	Leu	Ala	Glu	Ala	Gln	Ala	Lys
1				5					10					15	
Ala	Val	Ala	Thr	Gln	Asp	Gly	Pro	Gln	Ile	Asp	Phe	Ser	Ala	Asp	Met
		20						25					30		
Glu	Arg	Gln	Lys	Met	Ser	Ala	Glu	Gly	Leu	Met	Gly	Pro	Phe	Ala	Leu
		35					40					45			
Asn	Asp	Pro	Ala	Ala	Gly	Thr	Gly	Pro	Trp	Tyr	Thr	Asn	Gly	Thr	
	50					55				60					
Phe	Gly	Leu	Thr	Ala	Gly	Trp	His	Leu	Asp	Ile	Trp	Gly	Lys	Asn	Arg
65					70				75					80	
Ala	Glu	Val	Thr	Ala	Arg	Leu	Gly	Thr	Val	Lys	Ala	Arg	Ala	Ala	Glu
				85					90					95	
Arg	Glu	Gln	Thr	Arg	Gln	Leu	Leu	Ala	Gly	Ser	Val	Ala	Arg	Leu	Tyr
		100						105					110		
Trp	Glu	Trp	Gln	Thr	Gln	Ala	Ala	Leu	Asn	Thr	Val	Leu	Gln	Gln	Ile
	115					120						125			
Glu	Lys	Glu	Gln	Asn	Thr	Ile	Ile	Ala	Thr	Asp	Arg	Gln	Leu	Tyr	Gln
	130					135				140					
Asn	Gly	Ile	Thr	Ser	Ser	Val	Glu	Gly	Val	Glu	Thr	Asp	Ile	Asn	Ala
145					150					155				160	
Ser	Lys	Thr	Arg	Gln	Gln	Leu	Asn	Asp	Val	Ala	Gly	Lys	Met	Lys	Ile
				165					170					175	
Ile	Glu	Ala	Arg	Leu	Ser	Ala	Leu	Thr	Asn	Asn	Gln	Thr	Lys	Ser	Leu
		180						185					190		
Lys	Leu	Lys	Pro	Val	Ala	Leu	Pro	Lys	Val	Ala	Ser	Gln	Leu	Pro	Asp

	195		200		205										
Glu	Leu	Gly	Tyr	Ser	Leu	Leu	Ala	Arg	Arg	Ala	Asp	Leu	Gln	Ala	Ala
	210					215					220				
His	Trp	Tyr	Val	Glu	Ser	Ser	Leu	Ser	Thr	Ile	Asp	Ala	Ala	Lys	Ala
225					230					235					240
Ala	Phe	Tyr	Pro	Asp	Ile	Asn	Leu	Met	Ala	Phe	Leu	Gln	Gln	Asp	Ala
				245					250					255	
Leu	His	Leu	Ser	Asp	Leu	Phe	Arg	His	Ser	Ala	Gln	Gln	Met	Gly	Val
			260					265					270		
Thr	Ala	Gly	Leu	Thr	Leu	Pro	Ile	Phe	Asp	Ser	Gly	Arg	Leu	Asn	Ala
	275						280					285			
Asn	Leu	Asp	Ile	Ala	Lys	Ala	Glu	Ser	Asn	Leu	Ser	Ile	Ala	Ser	Tyr
	290					295					300				
Asn	Lys	Ala	Val	Val	Glu	Ala	Val	Asn	Asp	Val	Ala	Arg	Ala	Ala	Ser
305					310					315					320
Gln	Val	Gln	Thr	Leu	Ala	Glu	Lys	Asn	Gln	His	Gln	Ala	Gln	Ile	Glu
				325					330					335	
Arg	Asp	Ala	Leu	Arg	Val	Val	Gly	Leu	Ala	Gln	Ala	Arg	Phe	Asn	Ala
			340					345					350		
Gly	Ile	Ile	Ala	Gly	Ser	Arg	Val	Ser	Glu	Ala	Arg	Ile	Pro	Ala	Leu
	355						360					365			
Arg	Glu	Arg	Ala	Asn	Gly	Leu	Leu	Leu	Gln	Gly	Gln	Trp	Leu	Asp	Ala
	370				375						380				
Ser	Ile	Gln	Leu	Thr	Gly	Ala	Leu	Gly	Gly	Gly	Tyr	Lys	Arg		
385					390				395						

<210> 305
 <211> 96
 <212> PRT
 <213> E. Coli

	<400>	305													
Met	Tyr	Cys	His	Ala	Lys	Leu	Lys	Asn	Ile	Ser	Gln	His	Thr	Val	Ile
1				5					10					15	
Ser	Ala	His	Leu	Phe	Leu	Pro	Asp	Tyr	Ser	Pro	Met	Asn	Arg	Asp	Ser
			20					25					30		
Phe	Tyr	Pro	Ala	Ile	Ala	Cys	Phe	Pro	Leu	Leu	Leu	Met	Leu	Ala	Gly
		35					40					45			
Cys	Ala	Pro	Met	His	Glu	Thr	Arg	Gln	Ala	Leu	Ser	Gln	Gln	Thr	Pro
	50					55					60				
Ala	Ala	Gln	Val	Asp	Thr	Ala	Leu	Pro	Thr	Ala	Leu	Lys	Met	Val	Gly
65				70					75						80
Gln	Thr	Ala	Asn	Gly	Gly	Trp	Ser	Ile	Thr	Ile	Ile	Asn	Ser	Leu	Pro
			85						90					95	

<210> 306
 <211> 315
 <212> PRT
 <213> E. Coli

	<400>	306													
Met	Arg	Val	Leu	Leu	Ala	Pro	Met	Glu	Gly	Val	Leu	Asp	Ser	Leu	Val
1			5						10					15	
Arg	Glu	Leu	Leu	Thr	Glu	Val	Asn	Asp	Tyr	Asp	Leu	Cys	Ile	Thr	Glu
		20						25					30		

Phe	Val	Arg	Val	Val	Asp	Gln	Leu	Leu	Pro	Val	Lys	Val	Phe	His	Arg
	35						40					45			
Ile	Cys	Pro	Glu	Leu	Gln	Asn	Ala	Ser	Arg	Thr	Pro	Ser	Gly	Thr	Leu
	50					55					60				
Val	Arg	Val	Gln	Leu	Leu	Gly	Gln	Phe	Pro	Gln	Trp	Leu	Ala	Glu	Asn
65					70					75					80
Ala	Ala	Arg	Ala	Val	Glu	Leu	Gly	Ser	Trp	Gly	Val	Asp	Leu	Asn	Cys
				85					90					95	
Gly	Cys	Pro	Ser	Lys	Thr	Val	Asn	Gly	Ser	Gly	Gly	Gly	Ala	Thr	Leu
			100					105					110		
Leu	Lys	Asp	Pro	Glu	Leu	Ile	Tyr	Gln	Gly	Ala	Lys	Ala	Met	Arg	Glu
		115					120						125		
Ala	Val	Pro	Ala	His	Leu	Pro	Val	Ser	Val	Lys	Val	Arg	Leu	Gly	Trp
		130				135					140				
Asp	Ser	Gly	Glu	Lys	Lys	Phe	Glu	Ile	Ala	Asp	Ala	Val	Gln	Gln	Ala
145					150					155					160
Gly	Ala	Thr	Glu	Leu	Val	Val	His	Gly	Arg	Thr	Lys	Glu	Gln	Gly	Tyr
				165					170						175
Arg	Ala	Glu	His	Ile	Asp	Trp	Gln	Ala	Ile	Gly	Asp	Ile	Arg	Gln	Arg
			180					185					190		
Leu	Asn	Ile	Pro	Val	Ile	Ala	Asn	Gly	Glu	Ile	Trp	Asp	Trp	Gln	Ser
		195					200					205			
Ala	Gln	Gln	Cys	Met	Ala	Ile	Ser	Gly	Cys	Asp	Ala	Val	Met	Ile	Gly
		210				215					220				
Arg	Gly	Ala	Leu	Asn	Ile	Pro	Asn	Leu	Ser	Arg	Val	Val	Lys	Tyr	Asn
225					230					235					240
Glu	Pro	Arg	Met	Pro	Trp	Pro	Glu	Val	Val	Ala	Leu	Leu	Gln	Lys	Tyr
				245					250					255	
Thr	Arg	Leu	Glu	Lys	Gln	Gly	Asp	Thr	Gly	Leu	Tyr	His	Val	Ala	Arg
			260					265					270		
Ile	Lys	Gln	Trp	Leu	Ser	Tyr	Leu	Arg	Lys	Glu	Tyr	Asp	Glu	Ala	Thr
		275					280					285			
Glu	Leu	Phe	Gln	His	Val	Arg	Val	Leu	Asn	Asn	Ser	Pro	Asp	Ile	Ala
	290					295					300				
Arg	Ala	Ile	Gln	Ala	Ile	Asp	Ile	Glu	Lys	Leu					
305					310					315					

<210> 307

<211> 296

<212> PRT

<213> E. Coli

<400> 307

Met	Thr	Ile	Ser	Thr	Thr	Ser	Thr	Pro	His	Asp	Ala	Val	Phe	Lys	Ser
1				5					10					15	
Phe	Leu	Arg	His	Pro	Asp	Thr	Ala	Arg	Asp	Phe	Ile	Asp	Ile	His	Leu
			20					25					30		
Pro	Ala	Pro	Leu	Arg	Lys	Leu	Cys	Asp	Leu	Thr	Thr	Leu	Lys	Leu	Glu
		35					40					45			
Pro	Asn	Ser	Phe	Ile	Asp	Glu	Asp	Leu	Arg	Gln	Tyr	Tyr	Ser	Asp	Leu
	50					55					60				
Leu	Trp	Ser	Val	Lys	Thr	Gln	Glu	Gly	Val	Gly	Tyr	Ile	Tyr	Val	Val
65					70					75					80
Ile	Glu	His	Gln	Ser	Lys	Pro	Glu	Glu	Leu	Met	Ala	Phe	Arg	Met	Met
				85					90					95	
Arg	Tyr	Ser	Ile	Ala	Ala	Met	Gln	Asn	His	Leu	Asp	Ala	Gly	Tyr	Lys

Leu Asp Ala Glu Ser Val Ala Trp Leu Glu Arg Phe Leu His Asp Phe
 195 200 205
 Glu Gly Thr Val Val Ala Ile Thr His Asp Arg Tyr Phe Leu Asp Asn
 210 215 220
 Val Ala Gly Trp Ile Leu Glu Leu Asp Arg Gly Glu Gly Ile Pro Trp
 225 230 235 240
 Glu Gly Asn Tyr Ser Ser Trp Leu Glu Gln Lys Asp Gln Arg Leu Ala
 245 250 255
 Gln Glu Ala Ser Gln Glu Ala Ala Arg Arg Lys Ser Ile Glu Lys Glu
 260 265 270
 Leu Glu Trp Val Arg Gln Gly Thr Lys Gly Arg Gln Ser Lys Gly Lys
 275 280 285
 Ala Arg Leu Ala Arg Phe Glu Glu Leu Asn Ser Thr Glu Tyr Gln Lys
 290 295 300
 Arg Asn Glu Thr Asn Glu Leu Phe Ile Pro Pro Gly Pro Arg Leu Gly
 305 310 315 320
 Asp Lys Val Leu Glu Val Ser Asn Leu Arg Lys Ser Tyr Gly Asp Arg
 325 330 335
 Leu Leu Ile Asp Asp Leu Ser Phe Ser Ile Pro Lys Gly Ala Ile Val
 340 345 350
 Gly Ile Ile Gly Pro Asn Gly Ala Gly Lys Ser Thr Leu Phe Arg Met
 355 360 365
 Ile Ser Gly Gln Glu Gln Pro Asp Ser Gly Thr Ile Thr Leu Gly Glu
 370 375 380
 Thr Val Lys Leu Ala Ser Val Asp Gln Phe Arg Asp Ser Met Asp Asn
 385 390 395 400
 Ser Lys Thr Val Trp Glu Glu Val Ser Gly Gly Leu Asp Ile Met Lys
 405 410 415
 Ile Gly Asn Thr Glu Met Pro Ser Arg Ala Tyr Val Gly Arg Phe Asn
 420 425 430
 Phe Lys Gly Val Asp Gln Gly Lys Arg Val Gly Glu Leu Ser Gly Gly
 435 440 445
 Glu Arg Gly Arg Leu His Leu Ala Lys Leu Leu Gln Val Gly Gly Asn
 450 455 460
 Met Leu Leu Leu Asp Glu Pro Thr Asn Asp Leu Asp Ile Glu Thr Leu
 465 470 475 480
 Arg Ala Leu Glu Asn Ala Leu Leu Glu Phe Pro Gly Cys Ala Met Val
 485 490 495
 Ile Ser His Asp Arg Trp Phe Leu Asp Arg Ile Ala Thr His Ile Leu
 500 505 510
 Asp Tyr Gln Asp Glu Gly Lys Val Glu Phe Phe Glu Gly Asn Phe Thr
 515 520 525
 Glu Tyr Glu Glu Tyr Lys Lys Arg Thr Leu Gly Ala Asp Ala Leu Glu
 530 535 540
 Pro Lys Arg Ile Lys Tyr Lys Arg Ile Ala Lys
 545 550 555

<210> 309
 <211> 173
 <212> PRT
 <213> E. Coli

<400> 309
 Met Ser Lys Pro Lys Tyr Pro Phe Glu Lys Arg Leu Glu Val Val Asn
 1 5 10 15

His Tyr Phe Thr Thr Asp Asp Gly Tyr Arg Ile Ile Ser Ala Arg Phe
 20 25 30
 Gly Val Pro Arg Thr Gln Val Arg Thr Trp Val Ala Leu Tyr Glu Lys
 35 40 45
 His Gly Glu Lys Gly Leu Ile Pro Lys Pro Lys Gly Val Ser Ala Asp
 50 55 60
 Pro Glu Leu Arg Ile Lys Val Val Lys Ala Val Ile Glu Gln His Met
 65 70 75 80
 Ser Leu Asn Gln Ala Ala Ala His Phe Met Leu Ala Gly Ser Gly Ser
 85 90 95
 Val Ala Arg Trp Leu Lys Val Tyr Glu Glu Arg Gly Glu Ala Gly Leu
 100 105 110
 Arg Ala Leu Lys Ile Gly Thr Lys Arg Asn Ile Ala Ile Ser Val Asp
 115 120 125
 Pro Glu Lys Ala Ala Ser Ala Leu Glu Leu Ser Lys Asp Arg Arg Ile
 130 135 140
 Glu Asp Leu Glu Arg Gln Val Arg Phe Leu Glu Thr Arg Leu Met Tyr
 145 150 155 160
 Leu Lys Lys Leu Lys Ala Leu Ala His Pro Thr Lys Lys
 165 170

<210> 310

<211> 283

<212> PRT

<213> E. Coli

<400> 310

Met Lys Val Leu Asn Glu Leu Arg Gln Phe Tyr Pro Leu Asp Glu Leu
 1 5 10 15
 Leu Arg Ala Ala Glu Ile Pro Arg Ser Thr Phe Tyr Tyr His Leu Lys
 20 25 30
 Ala Leu Ser Lys Pro Asp Lys Tyr Ala Asp Val Lys Lys Arg Ile Ser
 35 40 45
 Glu Ile Tyr His Glu Asn Arg Gly Arg Tyr Gly Tyr Arg Arg Val Thr
 50 55 60
 Leu Ser Leu His Arg Glu Gly Lys Gln Ile Asn His Lys Ala Val Gln
 65 70 75 80
 Arg Leu Met Gly Thr Leu Ser Leu Lys Ala Ala Ile Lys Val Lys Arg
 85 90 95
 Tyr Arg Ser Tyr Arg Gly Glu Val Gly Gln Thr Ala Pro Asn Val Leu
 100 105 110
 Gln Arg Asp Phe Lys Ala Thr Arg Pro Asn Glu Lys Trp Val Thr Asp
 115 120 125
 Val Thr Glu Phe Ala Val Asn Gly Arg Lys Leu Tyr Leu Ser Pro Val
 130 135 140
 Ile Asp Leu Phe Asn Asn Glu Val Ile Ser Tyr Ser Leu Ser Glu Arg
 145 150 155 160
 Pro Val Met Asn Met Val Glu Asn Met Leu Asp Gln Ala Phe Lys Lys
 165 170 175
 Leu Asn Pro His Glu His Pro Val Leu His Ser Asp Gln Gly Trp Gln
 180 185 190
 Tyr Arg Met Arg Arg Tyr Gln Asn Ile Leu Lys Glu His Gly Ile Lys
 195 200 205
 Gln Ser Met Ser Arg Lys Gly Asn Cys Leu Asp Asn Ala Val Val Glu
 210 215 220
 Cys Phe Phe Gly Thr Leu Lys Ser Glu Cys Phe Tyr Leu Asp Glu Phe

225 230 235 240
 Ser Asn Ile Ser Glu Leu Lys Asp Ala Val Thr Glu Tyr Ile Glu Tyr
 245 250 255
 Tyr Asn Ser Arg Arg Ile Ser Leu Lys Leu Lys Gly Leu Thr Pro Ile
 260 265 270
 Glu Tyr Arg Asn Gln Thr Tyr Met Pro Arg Val
 275 280

<210> 311
 <211> 38
 <212> PRT
 <213> E. Coli

<400> 311
 Met Lys Val Arg Ala Ser Val Lys Lys Leu Cys Arg Asn Cys Lys Ile
 1 5 10 15
 Val Lys Arg Asp Gly Val Ile Arg Val Ile Cys Ser Ala Glu Pro Lys
 20 25 30
 His Lys Gln Arg Gln Gly
 35

<210> 312
 <211> 443
 <212> PRT
 <213> E. Coli

<400> 312
 Met Ala Lys Gln Pro Gly Leu Asp Phe Gln Ser Ala Lys Gly Gly Leu
 1 5 10 15
 Gly Glu Leu Lys Arg Arg Leu Leu Phe Val Ile Gly Ala Leu Ile Val
 20 25 30
 Phe Arg Ile Gly Ser Phe Ile Pro Ile Pro Gly Ile Asp Ala Ala Val
 35 40 45
 Leu Ala Lys Leu Leu Glu Gln Gln Arg Gly Thr Ile Ile Glu Met Phe
 50 55 60
 Asn Met Phe Ser Gly Gly Ala Leu Ser Arg Ala Ser Ile Phe Ala Leu
 65 70 75 80
 Gly Ile Met Pro Tyr Ile Ser Ala Ser Ile Ile Ile Gln Leu Leu Thr
 85 90 95
 Val Val His Pro Thr Leu Ala Glu Ile Lys Lys Glu Gly Glu Ser Gly
 100 105 110
 Arg Arg Lys Ile Ser Gln Tyr Thr Arg Tyr Gly Thr Leu Val Leu Ala
 115 120 125
 Ile Phe Gln Ser Ile Gly Ile Ala Thr Gly Leu Pro Asn Met Pro Gly
 130 135 140
 Met Gln Gly Leu Val Ile Asn Pro Gly Phe Ala Phe Tyr Phe Thr Ala
 145 150 155 160
 Val Val Ser Leu Val Thr Gly Thr Met Phe Leu Met Trp Leu Gly Glu
 165 170 175
 Gln Ile Thr Glu Arg Gly Ile Gly Asn Gly Ile Ser Ile Ile Ile Phe
 180 185 190
 Ala Gly Ile Val Ala Gly Leu Pro Pro Ala Ile Ala His Thr Ile Glu
 195 200 205
 Gln Ala Arg Gln Gly Asp Leu His Phe Leu Val Leu Leu Val Ala
 210 215 220
 Val Leu Val Phe Ala Val Thr Phe Phe Val Val Phe Val Glu Arg Gly

225					230				235				240
Gln	Arg	Arg	Ile	Val	Val	Asn	Tyr	Ala	Lys	Arg	Gln	Gln	Gly
				245					250				255
Val	Tyr	Ala	Ala	Gln	Ser	Thr	His	Leu	Pro	Leu	Lys	Val	Asn
				260				265					270
Gly	Val	Ile	Pro	Ala	Ile	Phe	Ala	Ser	Ser	Ile	Ile	Leu	Phe
		275					280					285	
Thr	Ile	Ala	Ser	Trp	Phe	Gly	Gly	Thr	Gly	Trp	Asn	Trp	Leu
	290					295				300			
Thr	Ile	Ser	Leu	Tyr	Leu	Gln	Pro	Gly	Gln	Pro	Leu	Tyr	Val
305					310					315			320
Tyr	Ala	Ser	Ala	Ile	Ile	Phe	Phe	Cys	Phe	Phe	Tyr	Thr	Ala
				325					330				335
Phe	Asn	Pro	Arg	Glu	Thr	Ala	Asp	Asn	Leu	Lys	Lys	Ser	Gly
			340					345					350
Val	Pro	Gly	Ile	Arg	Pro	Gly	Glu	Gln	Thr	Ala	Lys	Tyr	Ile
		355					360					365	
Val	Met	Thr	Arg	Leu	Thr	Leu	Val	Gly	Ala	Leu	Tyr	Ile	Thr
	370					375					380		
Cys	Leu	Ile	Pro	Glu	Phe	Met	Arg	Asp	Ala	Met	Lys	Val	Pro
385					390					395			400
Phe	Gly	Gly	Thr	Ser	Leu	Leu	Ile	Val	Val	Val	Val	Ile	Met
			405					410					415
Met	Ala	Gln	Val	Gln	Thr	Leu	Met	Met	Ser	Ser	Gln	Tyr	Glu
			420					425					430
Leu	Lys	Lys	Ala	Asn	Leu	Lys	Gly	Tyr	Gly	Arg			
		435					440						

<210> 313

<211> 144

<212> PRT

<213> E. Coli

<400> 313

Met	Arg	Leu	Asn	Thr	Leu	Ser	Pro	Ala	Glu	Gly	Ser	Lys	Lys	Ala	Gly
1				5					10					15	
Lys	Arg	Leu	Gly	Arg	Gly	Ile	Gly	Ser	Gly	Leu	Gly	Lys	Thr	Gly	Gly
		20					25						30		
Arg	Gly	His	Lys	Gly	Gln	Lys	Ser	Arg	Ser	Gly	Gly	Gly	Val	Arg	Arg
		35					40					45			
Gly	Phe	Glu	Gly	Gly	Gln	Met	Pro	Leu	Tyr	Arg	Arg	Leu	Pro	Lys	Phe
	50					55					60				
Gly	Phe	Thr	Ser	Arg	Lys	Ala	Ala	Ile	Thr	Ala	Glu	Ile	Arg	Leu	Ser
65					70				75					80	
Asp	Leu	Ala	Lys	Val	Glu	Gly	Gly	Val	Val	Asp	Leu	Asn	Thr	Leu	Lys
			85					90						95	
Ala	Ala	Asn	Ile	Ile	Gly	Ile	Gln	Ile	Glu	Phe	Ala	Lys	Val	Ile	Leu
		100					105						110		
Ala	Gly	Glu	Val	Thr	Thr	Pro	Val	Thr	Val	Arg	Gly	Leu	Arg	Val	Thr
		115				120						125			
Lys	Gly	Ala	Arg	Ala	Ala	Ile	Glu	Ala	Ala	Gly	Gly	Lys	Ile	Glu	Glu
	130					135								140	

<210> 314

<211> 59
 <212> PRT
 <213> E. Coli

<400> 314
 Met Ala Lys Thr Ile Lys Ile Thr Gln Thr Arg Ser Ala Ile Gly Arg
 1 5 10 15
 Leu Pro Lys His Lys Ala Thr Leu Leu Gly Leu Gly Leu Arg Arg Ile
 20 25 30
 Gly His Thr Val Glu Arg Glu Asp Thr Pro Ala Ile Arg Gly Met Ile
 35 40 45
 Asn Ala Val Ser Phe Met Val Lys Val Glu Glu
 50 55

<210> 315
 <211> 167
 <212> PRT
 <213> E. Coli

<400> 315
 Met Ala His Ile Glu Lys Gln Ala Gly Glu Leu Gln Glu Lys Leu Ile
 1 5 10 15
 Ala Val Asn Arg Val Ser Lys Thr Val Lys Gly Gly Arg Ile Phe Ser
 20 25 30
 Phe Thr Ala Leu Thr Val Val Gly Asp Gly Asn Gly Arg Val Gly Phe
 35 40 45
 Gly Tyr Gly Lys Ala Arg Glu Val Pro Ala Ala Ile Gln Lys Ala Met
 50 55 60
 Glu Lys Ala Arg Arg Asn Met Ile Asn Val Ala Leu Asn Asn Gly Thr
 65 70 75 80
 Leu Gln His Pro Val Lys Gly Val His Thr Gly Ser Arg Val Phe Met
 85 90 95
 Gln Pro Ala Ser Glu Gly Thr Gly Ile Ile Ala Gly Gly Ala Met Arg
 100 105 110
 Ala Val Leu Glu Val Ala Gly Val His Asn Val Leu Ala Lys Ala Tyr
 115 120 125
 Gly Ser Thr Asn Pro Ile Asn Val Val Arg Ala Thr Ile Asp Gly Leu
 130 135 140
 Glu Asn Met Asn Ser Pro Glu Met Val Ala Ala Lys Arg Gly Lys Ser
 145 150 155 160
 Val Glu Glu Ile Leu Gly Lys
 165

<210> 316
 <211> 117
 <212> PRT
 <213> E. Coli

<400> 316
 Met Asp Lys Lys Ser Ala Arg Ile Arg Arg Ala Thr Arg Ala Arg Arg
 1 5 10 15
 Lys Leu Gln Glu Leu Gly Ala Thr Arg Leu Val Val His Arg Thr Pro
 20 25 30
 Arg His Ile Tyr Ala Gln Val Ile Ala Pro Asn Gly Ser Glu Val Leu

	35					40				45					
Val	Ala	Ala	Ser	Thr	Val	Glu	Lys	Ala	Ile	Ala	Glu	Gln	Leu	Lys	Tyr
	50					55					60				
Thr	Gly	Asn	Lys	Asp	Ala	Ala	Ala	Val	Gly	Lys	Ala	Val	Ala	Glu	
65					70				75					80	
Arg	Ala	Leu	Glu	Lys	Gly	Ile	Lys	Asp	Val	Ser	Phe	Asp	Arg	Ser	Gly
				85					90					95	
Phe	Gln	Tyr	His	Gly	Arg	Val	Gln	Ala	Leu	Ala	Asp	Ala	Ala	Arg	Glu
			100					105						110	
Ala	Gly	Leu	Gln	Phe											
			115												

<210> 317
 <211> 177
 <212> PRT
 <213> E. Coli

Met	Ser	Arg	Val	Ala	Lys	Ala	Pro	Val	Val	Val	Pro	Ala	Gly	Val	Asp
1				5					10					15	
Val	Lys	Ile	Asn	Gly	Gln	Val	Ile	Thr	Ile	Lys	Gly	Lys	Asn	Gly	Glu
			20					25					30		
Leu	Thr	Arg	Thr	Leu	Asn	Asp	Ala	Val	Glu	Val	Lys	His	Ala	Asp	Asn
		35					40					45			
Thr	Leu	Thr	Phe	Gly	Pro	Arg	Asp	Gly	Tyr	Ala	Asp	Gly	Trp	Ala	Gln
	50					55					60				
Ala	Gly	Thr	Ala	Arg	Ala	Leu	Leu	Asn	Ser	Met	Val	Ile	Gly	Val	Thr
65					70					75					80
Glu	Gly	Phe	Thr	Lys	Lys	Leu	Gln	Leu	Val	Gly	Val	Gly	Tyr	Arg	Ala
				85					90					95	
Ala	Val	Lys	Gly	Asn	Val	Ile	Asn	Leu	Ser	Leu	Gly	Phe	Ser	His	Pro
			100					105					110		
Val	Asp	His	Gln	Leu	Pro	Ala	Gly	Ile	Thr	Ala	Glu	Cys	Pro	Thr	Gln
		115					120					125			
Thr	Glu	Ile	Val	Leu	Lys	Gly	Ala	Asp	Lys	Gln	Val	Ile	Gly	Gln	Val
	130					135					140				
Ala	Ala	Asp	Leu	Arg	Ala	Tyr	Arg	Arg	Pro	Glu	Pro	Tyr	Lys	Gly	Lys
145					150					155					160
Gly	Val	Arg	Tyr	Ala	Asp	Glu	Val	Val	Arg	Thr	Lys	Glu	Ala	Lys	Lys
				165					170					175	

Lys

<210> 318
 <211> 130
 <212> PRT
 <213> E. Coli

Met	Ser	Met	Gln	Asp	Pro	Ile	Ala	Asp	Met	Leu	Thr	Arg	Ile	Arg	Asn
1				5					10					15	
Gly	Gln	Ala	Ala	Asn	Lys	Ala	Ala	Val	Thr	Met	Pro	Ser	Ser	Lys	Leu
			20					25					30		
Lys	Val	Ala	Ile	Ala	Asn	Val	Leu	Lys	Glu	Glu	Gly	Phe	Ile	Glu	Asp
		35					40					45			

Phe Lys Val Glu Gly Asp Thr Lys Pro Glu Leu Glu Leu Thr Leu Lys
 50 55 60
 Tyr Phe Gln Gly Lys Ala Val Val Glu Ser Ile Gln Arg Val Ser Arg
 65 70 75 80
 Pro Gly Leu Arg Ile Tyr Lys Arg Lys Asp Glu Leu Pro Lys Val Met
 85 90 95
 Ala Gly Leu Gly Ile Ala Val Val Ser Thr Ser Lys Gly Val Met Thr
 100 105 110
 Asp Arg Ala Ala Arg Gln Ala Gly Leu Gly Gly Glu Ile Ile Cys Tyr
 115 120 125
 Val Ala
 130

<210> 319
 <211> 101
 <212> PRT
 <213> E. Coli

<400> 319
 Met Ala Lys Gln Ser Met Lys Ala Arg Glu Val Lys Arg Val Ala Leu
 1 5 10 15
 Ala Asp Lys Tyr Phe Ala Lys Arg Ala Glu Leu Lys Ala Ile Ile Ser
 20 25 30
 Asp Val Asn Ala Ser Asp Glu Asp Arg Trp Asn Ala Val Leu Lys Leu
 35 40 45
 Gln Thr Leu Pro Arg Asp Ser Ser Pro Ser Arg Gln Arg Asn Arg Cys
 50 55 60
 Arg Gln Thr Gly Arg Pro His Gly Phe Leu Arg Lys Phe Gly Leu Ser
 65 70 75 80
 Arg Ile Lys Val Arg Glu Ala Ala Met Arg Gly Glu Ile Pro Gly Leu
 85 90 95
 Lys Lys Ala Ser Trp
 100

<210> 320
 <211> 179
 <212> PRT
 <213> E. Coli

<400> 320
 Met Ala Lys Leu His Asp Tyr Tyr Lys Asp Glu Val Val Lys Lys Leu
 1 5 10 15
 Met Thr Glu Phe Asn Tyr Asn Ser Val Met Gln Val Pro Arg Val Glu
 20 25 30
 Lys Ile Thr Leu Asn Met Gly Val Gly Glu Ala Ile Ala Asp Lys Lys
 35 40 45
 Leu Leu Asp Asn Ala Ala Ala Asp Leu Ala Ala Ile Ser Gly Gln Lys
 50 55 60
 Pro Leu Ile Thr Lys Ala Arg Lys Ser Val Ala Gly Phe Lys Ile Arg
 65 70 75 80
 Gln Gly Tyr Pro Ile Gly Cys Lys Val Thr Leu Arg Gly Glu Arg Met
 85 90 95
 Trp Glu Phe Phe Glu Arg Leu Ile Thr Ile Ala Val Pro Arg Ile Arg
 100 105 110

Asp	Phe	Arg	Gly	Leu	Ser	Ala	Lys	Ser	Phe	Asp	Gly	Arg	Gly	Asn	Tyr
	115						120					125			
Ser	Met	Gly	Val	Arg	Glu	Gln	Ile	Ile	Phe	Pro	Glu	Ile	Asp	Tyr	Asp
	130					135					140				
Lys	Val	Asp	Arg	Val	Arg	Gly	Leu	Asp	Ile	Thr	Ile	Thr	Thr	Thr	Ala
145					150					155					160
Lys	Ser	Asp	Glu	Glu	Gly	Arg	Ala	Leu	Leu	Ala	Ala	Phe	Asp	Phe	Pro
			165					170						175	
Phe	Arg	Lys													

<210> 321Z
 <211> 104
 <212> PRT
 <213> E. Coli

<400> 321

Met	Ala	Ala	Lys	Ile	Arg	Arg	Asp	Asp	Glu	Val	Ile	Val	Leu	Thr	Gly
1			5						10				15		
Lys	Asp	Lys	Gly	Lys	Arg	Gly	Lys	Val	Lys	Asn	Val	Leu	Ser	Ser	Gly
		20					25					30			
Lys	Val	Ile	Val	Glu	Gly	Ile	Asn	Leu	Val	Lys	Lys	His	Gln	Lys	Pro
	35					40						45			
Val	Pro	Ala	Leu	Asn	Gln	Pro	Gly	Gly	Ile	Val	Glu	Lys	Glu	Ala	Ala
50					55						60				
Ile	Gln	Val	Ser	Asn	Val	Ala	Ile	Phe	Asn	Ala	Ala	Thr	Gly	Lys	Ala
65				70					75						80
Asp	Arg	Val	Gly	Phe	Arg	Phe	Glu	Asp	Gly	Lys	Lys	Val	Arg	Phe	Phe
			85					90						95	
Lys	Ser	Asn	Ser	Glu	Thr	Ile	Lys								
			100												

<210> 322
 <211> 123
 <212> PRT
 <213> E. Coli

<400> 322

Met	Ile	Gln	Glu	Gln	Thr	Met	Leu	Asn	Val	Ala	Asp	Asn	Ser	Gly	Ala
1				5					10				15		
Arg	Arg	Val	Met	Cys	Ile	Lys	Val	Leu	Gly	Gly	Ser	His	Arg	Arg	Tyr
		20						25				30			
Ala	Gly	Val	Gly	Asp	Ile	Ile	Lys	Ile	Thr	Ile	Lys	Glu	Ala	Ile	Pro
	35					40						45			
Arg	Gly	Lys	Val	Lys	Lys	Gly	Asp	Val	Leu	Lys	Ala	Val	Val	Val	Arg
50					55						60				
Thr	Lys	Lys	Gly	Val	Arg	Arg	Pro	Asp	Gly	Ser	Val	Ile	Arg	Phe	Asp
65				70					75						80
Gly	Asn	Ala	Cys	Val	Leu	Leu	Asn	Asn	Asn	Ser	Glu	Gln	Pro	Ile	Gly
			85					90					95		
Thr	Arg	Ile	Phe	Gly	Pro	Val	Thr	Arg	Glu	Leu	Arg	Ser	Glu	Lys	Phe
		100					105						110		
Met	Lys	Ile	Ser	Leu	Ala	Pro	Glu	Val	Leu						
	115					120									

<210> 323
 <211> 188
 <212> PRT
 <213> E. Coli

<400> 323

```

Met Phe Lys Gly Gln Lys Thr Leu Ala Ala Leu Ala Val Ser Leu Leu
 1           5           10           15
Phe Thr Ala Pro Val Tyr Ala Ala Asp Glu Gly Ser Gly Glu Ile His
      20           25           30
Phe Lys Gly Glu Val Ile Glu Ala Pro Cys Glu Ile His Pro Glu Asp
      35           40           45
Ile Asp Lys Asn Ile Asp Leu Gly Gln Val Thr Thr Thr His Ile Asn
      50           55           60
Arg Glu His His Ser Asn Lys Val Ala Val Asp Ile Arg Leu Ile Asn
      65           70           75           80
Cys Asp Leu Pro Ala Ser Asp Asn Gly Ser Gly Met Pro Val Ser Lys
      85           90           95
Val Gly Val Thr Phe Asp Ser Thr Ala Lys Thr Thr Gly Ala Thr Pro
      100          105          110
Leu Leu Ser Asn Thr Ser Ala Gly Glu Ala Thr Gly Val Gly Val Arg
      115          120          125
Leu Met Asp Lys Asn Asp Gly Asn Ile Val Leu Gly Ser Ala Ala Pro
      130          135          140
Asp Leu Asp Leu Asp Ala Ser Ser Ser Glu Gln Thr Leu Asn Phe Phe
      145          150          155          160
Ala Trp Met Glu Gln Ile Asp Asn Ala Val Asp Val Thr Ala Gly Glu
      165          170          175
Val Thr Ala Asn Ala Thr Tyr Val Leu Asp Tyr Lys
      180          185

```

<210> 324
 <211> 427
 <212> PRT
 <213> E. Coli

<400> 324

```

Met Ala Asp Thr Lys Ala Lys Leu Thr Leu Asn Gly Asp Thr Ala Val
 1           5           10           15
Glu Leu Asp Val Leu Lys Gly Thr Leu Gly Gln Asp Val Ile Asp Ile
      20           25           30
Arg Thr Leu Gly Ser Lys Gly Val Phe Thr Phe Asp Pro Gly Phe Thr
      35           40           45
Ser Thr Ala Ser Cys Glu Ser Lys Ile Thr Phe Ile Asp Gly Asp Glu
      50           55           60
Gly Ile Leu Leu His Arg Gly Phe Pro Ile Asp Gln Leu Ala Thr Asp
      65           70           75           80
Ser Asn Tyr Leu Glu Val Cys Tyr Ile Leu Leu Asn Gly Glu Lys Pro
      85           90           95
Thr Gln Glu Gln Tyr Asp Glu Phe Lys Thr Thr Val Thr Arg His Thr
      100          105          110
Met Ile His Glu Gln Ile Thr Arg Leu Phe His Ala Phe Arg Arg Asp
      115          120          125
Ser His Pro Met Ala Val Met Cys Gly Ile Thr Gly Ala Leu Ala Ala
      130          135          140

```

Phe	Tyr	His	Asp	Ser	Leu	Asp	Val	Asn	Asn	Pro	Arg	His	Arg	Glu	Ile
145					150					155					160
Ala	Ala	Phe	Arg	Leu	Leu	Ser	Lys	Met	Pro	Thr	Met	Ala	Ala	Met	Cys
				165					170					175	
Tyr	Lys	Tyr	Ser	Ile	Gly	Gln	Pro	Phe	Val	Tyr	Pro	Arg	Asn	Asp	Leu
			180					185					190		
Ser	Tyr	Ala	Gly	Asn	Phe	Leu	Asn	Met	Met	Phe	Ser	Thr	Pro	Cys	Glu
		195					200					205			
Pro	Tyr	Glu	Val	Asn	Pro	Ile	Leu	Glu	Arg	Ala	Met	Asp	Arg	Ile	Leu
	210					215					220				
Ile	Leu	His	Ala	Asp	His	Glu	Gln	Asn	Ala	Ser	Thr	Ser	Thr	Val	Arg
225					230					235					240
Thr	Ala	Gly	Ser	Ser	Gly	Ala	Asn	Pro	Phe	Ala	Cys	Ile	Ala	Ala	Gly
				245					250					255	
Ile	Ala	Ser	Leu	Trp	Gly	Pro	Ala	His	Gly	Gly	Ala	Asn	Glu	Ala	Ala
			260					265					270		
Leu	Lys	Met	Leu	Glu	Glu	Ile	Ser	Ser	Val	Lys	His	Ile	Pro	Glu	Phe
		275					280					285			
Val	Arg	Arg	Ala	Lys	Asp	Lys	Asn	Asp	Ser	Phe	Arg	Leu	Met	Gly	Phe
	290					295					300				
Gly	His	Arg	Val	Tyr	Lys	Asn	Tyr	Asp	Pro	Arg	Ala	Thr	Val	Met	Arg
305					310					315					320
Glu	Thr	Cys	His	Glu	Val	Leu	Lys	Glu	Leu	Gly	Thr	Lys	Asp	Asp	Leu
				325					330					335	
Leu	Glu	Val	Ala	Met	Glu	Leu	Glu	Asn	Ile	Ala	Leu	Asn	Asp	Pro	Tyr
			340					345					350		
Phe	Ile	Glu	Lys	Lys	Leu	Tyr	Pro	Asn	Val	Asp	Phe	Tyr	Ser	Gly	Ile
		355					360					365			
Ile	Leu	Lys	Ala	Met	Gly	Ile	Pro	Ser	Ser	Met	Phe	Thr	Val	Ile	Phe
	370					375					380				
Ala	Met	Ala	Arg	Thr	Val	Gly	Trp	Ile	Ala	His	Trp	Ser	Glu	Met	His
385					390					395					400
Ser	Asp	Gly	Met	Lys	Ile	Ala	Arg	Pro	Arg	Gln	Leu	Tyr	Thr	Gly	Tyr
				405					410					415	
Glu	Lys	Arg	Asp	Phe	Lys	Ser	Asp	Ile	Lys	Arg					
			420					425							

<210> 325

<211> 477

<212> PRT

<213> E. Coli

<400> 325

Met	Lys	Val	Thr	Leu	Pro	Glu	Phe	Glu	Arg	Ala	Gly	Val	Met	Val	Val
1				5				10					15		
Gly	Asp	Val	Met	Leu	Asp	Arg	Tyr	Trp	Tyr	Gly	Pro	Thr	Ser	Arg	Ile
			20					25					30		
Ser	Pro	Glu	Ala	Pro	Val	Pro	Val	Val	Lys	Val	Asn	Thr	Ile	Glu	Glu
		35				40						45			
Arg	Pro	Gly	Gly	Ala	Ala	Asn	Val	Ala	Met	Asn	Ile	Ala	Ser	Leu	Gly
	50					55					60				
Ala	Asn	Ala	Arg	Leu	Val	Gly	Leu	Thr	Gly	Ile	Asp	Asp	Ala	Ala	Arg
65					70					75					80
Ala	Leu	Ser	Lys	Ser	Leu	Ala	Asp	Val	Asn	Val	Lys	Cys	Asp	Phe	Val
				85					90					95	
Ser	Val	Pro	Thr	His	Pro	Thr	Ile	Thr	Lys	Leu	Arg	Val	Leu	Ser	Arg

Glu	Arg	Leu	Pro	Glu	Pro	Leu	Ala	Glu	Glu	Ser	Leu	Ser	Ala	Gln	Ala	20	25	30
Lys	Ser	Val	Leu	Thr	Phe	Ser	Asp	Phe	Val	Gln	Asp	Ser	Val	Ile	Ala	35	40	45
His	Pro	Glu	Trp	Leu	Thr	Glu	Leu	Glu	Ser	Gln	Pro	Pro	Gln	Ala	Asp	50	55	60
Glu	Trp	Gln	His	Tyr	Ala	Ala	Trp	Leu	Gln	Glu	Ala	Leu	Cys	Asn	Val	65	70	75
Ser	Asp	Glu	Ala	Gly	Leu	Met	Arg	Glu	Leu	Arg	Leu	Phe	Arg	Arg	Arg	80	85	90
Ile	Met	Val	Arg	Ile	Ala	Trp	Ala	Gln	Thr	Leu	Ala	Leu	Val	Thr	Glu	95	100	105
Glu	Ser	Ile	Leu	Gln	Gln	Leu	Ser	Tyr	Leu	Ala	Glu	Thr	Leu	Ile	Val	110	115	120
Ala	Ala	Arg	Asp	Trp	Leu	Tyr	Asp	Ala	Cys	Cys	Arg	Glu	Trp	Gly	Thr	125	130	135
Pro	Cys	Asn	Ala	Gln	Gly	Glu	Ala	Gln	Pro	Leu	Leu	Ile	Leu	Gly	Met	140	145	150
Gly	Lys	Leu	Gly	Gly	Gly	Glu	Leu	Asn	Phe	Ser	Ser	Asp	Ile	Asp	Leu	155	160	165
Ile	Phe	Ala	Trp	Pro	Glu	His	Gly	Cys	Thr	Gln	Gly	Gly	Arg	Arg	Glu	170	175	180
Leu	Asp	Asn	Ala	Gln	Phe	Phe	Thr	Arg	Met	Gly	Gln	Arg	Leu	Ile	Lys	185	190	195
Val	Leu	Asp	Gln	Pro	Thr	Gln	Asp	Gly	Phe	Val	Tyr	Arg	Val	Asp	Met	200	205	210
Arg	Leu	Arg	Pro	Phe	Gly	Glu	Ser	Gly	Pro	Leu	Val	Leu	Ser	Phe	Ala	215	220	225
Ala	Leu	Glu	Asp	Tyr	Tyr	Gln	Glu	Gln	Gly	Arg	Asp	Trp	Glu	Arg	Tyr	230	235	240
Ala	Met	Val	Lys	Ala	Arg	Ile	Met	Gly	Asp	Ser	Glu	Gly	Val	Tyr	Ala	245	250	255
Asn	Glu	Leu	Arg	Ala	Met	Leu	Arg	Pro	Phe	Val	Phe	Arg	Arg	Tyr	Ile	260	265	270
Asp	Phe	Ser	Val	Ile	Gln	Ser	Leu	Arg	Asn	Met	Lys	Gly	Met	Ile	Ala	275	280	285
Arg	Glu	Val	Arg	Arg	Arg	Gly	Leu	Thr	Asp	Asn	Ile	Lys	Leu	Gly	Ala	290	295	300
Gly	Gly	Ile	Arg	Glu	Ile	Glu	Phe	Ile	Val	Gln	Val	Phe	Gln	Leu	Ile	305	310	315
Arg	Gly	Gly	Arg	Glu	Pro	Ser	Leu	Gln	Ser	Arg	Ser	Leu	Leu	Pro	Thr	320	325	330
Leu	Ser	Ala	Ile	Ala	Glu	Leu	His	Leu	Leu	Ser	Glu	Asn	Asp	Ala	Glu	335	340	345
Gln	Leu	Arg	Val	Ala	Tyr	Leu	Phe	Leu	Arg	Arg	Leu	Glu	Asn	Leu	Leu	350	355	360
Gln	Ser	Ile	Asn	Asp	Glu	Gln	Thr	Gln	Thr	Leu	Pro	Ser	Asp	Glu	Leu	365	370	375
Asn	Arg	Ala	Arg	Leu	Ala	Trp	Ala	Met	Asp	Phe	Ala	Asp	Trp	Pro	Gln	380	385	390
Leu	Thr	Gly	Ala	Leu	Thr	Ala	His	Met	Thr	Asn	Val	Arg	Arg	Val	Phe	395	400	405
Asn	Glu	Leu	Ile	Gly	Asp	Asp	Glu	Ser	Glu	Thr	Gln	Glu	Glu	Ser	Leu	410	415	420
Ser	Glu	Gln	Trp	Arg	Glu	Leu	Trp	Gln	Asp	Ala	Leu	Gln	Glu	Asp	Asp	425	430	435
Thr	Thr	Pro	Val	Leu	Ala	His	Leu	Ser	Glu	Asp	Asp	Arg	Lys	Gln	Val	440	445	450
																455	460	

465					470					475					480
Leu	Thr	Leu	Ile	Ala	Asp	Phe	Arg	Lys	Glu	Leu	Asp	Lys	Arg	Thr	Ile
				485					490					495	
Gly	Pro	Arg	Gly	Arg	Gln	Val	Leu	Asp	His	Leu	Met	Pro	His	Leu	Leu
			500					505					510		
Ser	Asp	Val	Cys	Ala	Arg	Glu	Asp	Ala	Ala	Val	Thr	Leu	Ser	Arg	Ile
		515					520					525			
Thr	Ala	Leu	Leu	Val	Gly	Ile	Val	Thr	Arg	Thr	Thr	Tyr	Leu	Glu	Leu
	530					535					540				
Leu	Ser	Glu	Phe	Pro	Ala	Ala	Leu	Lys	His	Leu	Ile	Ser	Leu	Cys	Ala
545					550					555					560
Ala	Ser	Pro	Met	Ile	Ala	Ser	Gln	Leu	Ala	Arg	Tyr	Pro	Leu	Leu	Leu
				565					570						575
Asp	Glu	Leu	Leu	Asp	Pro	Asn	Thr	Leu	Tyr	Gln	Pro	Thr	Ala	Thr	Asp
		580						585					590		
Ala	Tyr	Arg	Asp	Glu	Leu	Arg	Gln	Tyr	Leu	Leu	Arg	Val	Pro	Glu	Asp
	595						600					605			
Asp	Glu	Glu	Gln	Gln	Leu	Glu	Ala	Leu	Arg	Gln	Phe	Lys	Gln	Ala	Gln
610						615					620				
Leu	Leu	Arg	Ile	Ala	Ala	Ala	Asp	Ile	Ala	Gly	Thr	Leu	Pro	Val	Met
625				630						635					640
Lys	Val	Ser	Asp	His	Leu	Thr	Trp	Leu	Ala	Glu	Ala	Met	Ile	Asp	Ala
				645					650					655	
Val	Val	Gln	Gln	Ala	Trp	Val	Gln	Met	Val	Ala	Arg	Tyr	Gly	Lys	Pro
		660						665					670		
Asn	His	Leu	Asn	Glu	Arg	Glu	Gly	Arg	Gly	Phe	Ala	Val	Val	Gly	Tyr
		675					680					685			
Gly	Lys	Leu	Gly	Gly	Trp	Glu	Leu	Gly	Tyr	Ser	Ser	Asp	Leu	Asp	Leu
690						695					700				
Ile	Phe	Leu	His	Asp	Cys	Pro	Met	Asp	Ala	Met	Thr	Asp	Gly	Glu	Arg
705				710						715					720
Glu	Ile	Asp	Gly	Arg	Gln	Phe	Tyr	Leu	Arg	Leu	Ala	Gln	Arg	Ile	Met
			725						730					735	
His	Leu	Phe	Ser	Thr	Arg	Thr	Ser	Ser	Gly	Ile	Leu	Tyr	Glu	Val	Asp
		740						745					750		
Ala	Arg	Leu	Arg	Pro	Ser	Gly	Ala	Ala	Gly	Met	Leu	Val	Thr	Ser	Ala
	755					760						765			
Glu	Ala	Phe	Ala	Asp	Tyr	Gln	Lys	Asn	Glu	Ala	Trp	Thr	Trp	Glu	His
770					775						780				
Gln	Ala	Leu	Val	Arg	Ala	Arg	Val	Val	Tyr	Gly	Asp	Pro	Gln	Leu	Thr
785				790						795					800
Ala	His	Phe	Asp	Ala	Val	Arg	Arg	Glu	Ile	Met	Thr	Leu	Pro	Arg	Glu
				805					810					815	
Gly	Lys	Thr	Leu	Gln	Thr	Glu	Val	Arg	Glu	Met	Arg	Glu	Lys	Met	Arg
			820					825					830		
Ala	His	Leu	Gly	Asn	Lys	His	Arg	Asp	Arg	Phe	Asp	Ile	Lys	Ala	Asp
	835					840						845			
Glu	Gly	Gly	Ile	Thr	Asp	Ile	Glu	Phe	Ile	Thr	Gln	Tyr	Leu	Val	Leu
850					855						860				
Arg	Tyr	Ala	His	Glu	Lys	Pro	Lys	Leu	Thr	Arg	Trp	Ser	Asp	Asn	Val
865				870						875					880
Arg	Ile	Leu	Glu	Leu	Leu	Ala	Gln	Asn	Asp	Ile	Met	Glu	Glu	Gln	Glu
				885					890					895	
Ala	Met	Ala	Leu	Thr	Arg	Ala	Tyr	Thr	Thr	Leu	Arg	Asp	Glu	Leu	His
	900						905						910		
His	Leu	Ala	Leu	Gln	Glu	Leu	Pro	Gly	His	Val	Ser	Glu	Asp	Cys	Phe
	915						920						925		

Thr Ala Glu Arg Glu Leu Val Arg Ala Ser Trp Gln Lys Trp Leu Val
 930 935 940
 Glu Glu
 945

<210> 327
 <211> 433
 <212> PRT
 <213> E. Coli

<400> 327
 Met Ala Gln Glu Ile Glu Leu Lys Phe Ile Val Asn His Ser Ala Val
 1 5 10 15
 Glu Ala Leu Arg Asp His Leu Asn Thr Leu Gly Gly Glu His His Asp
 20 25 30
 Pro Val Gln Leu Leu Asn Ile Tyr Tyr Glu Thr Pro Asp Asn Trp Leu
 35 40 45
 Arg Gly His Asp Met Gly Leu Arg Ile Arg Gly Glu Asn Gly Arg Tyr
 50 55 60
 Glu Met Thr Met Lys Val Ala Gly Arg Val Thr Gly Gly Leu His Gln
 65 70 75 80
 Arg Pro Glu Tyr Asn Val Ala Leu Ser Glu Pro Thr Leu Asp Leu Ala
 85 90 95
 Gln Leu Pro Thr Glu Val Trp Pro Asn Gly Glu Leu Pro Ala Asp Leu
 100 105 110
 Ala Ser Arg Val Gln Pro Leu Phe Ser Thr Asp Phe Tyr Arg Glu Lys
 115 120 125
 Trp Leu Val Ala Val Asp Gly Ser Gln Ile Glu Ile Ala Leu Asp Gln
 130 135 140
 Gly Glu Val Lys Ala Gly Glu Phe Ala Glu Pro Ile Cys Glu Leu Glu
 145 150 155 160
 Leu Glu Leu Leu Ser Gly Asp Thr Arg Ala Val Leu Lys Leu Ala Asn
 165 170 175
 Gln Leu Val Ser Gln Thr Gly Leu Arg Gln Gly Ser Leu Ser Lys Ala
 180 185 190
 Ala Arg Gly Tyr His Leu Ala Gln Gly Asn Pro Ala Arg Glu Ile Lys
 195 200 205
 Pro Thr Thr Ile Leu His Val Ala Ala Lys Ala Asp Val Glu Gln Gly
 210 215 220
 Leu Glu Ala Ala Leu Glu Leu Ala Leu Ala Gln Trp Gln Tyr His Glu
 225 230 235 240
 Glu Leu Trp Val Arg Gly Asn Asp Ala Ala Lys Glu Gln Val Leu Ala
 245 250 255
 Ala Ile Ser Leu Val Arg His Thr Leu Met Leu Phe Gly Gly Ile Val
 260 265 270
 Pro Arg Lys Ala Ser Thr His Leu Arg Asp Leu Leu Thr Gln Cys Glu
 275 280 285
 Ala Thr Ile Ala Ser Ala Val Ser Ala Val Thr Ala Val Tyr Ser Thr
 290 295 300
 Glu Thr Ala Met Ala Lys Leu Ala Leu Thr Glu Trp Leu Val Ser Lys
 305 310 315 320
 Ala Trp Gln Pro Phe Leu Asp Ala Lys Ala Gln Gly Lys Ile Ser Asp
 325 330 335
 Ser Phe Lys Arg Phe Ala Asp Ile His Leu Ser Arg His Ala Ala Glu
 340 345 350

Leu Lys Ser Val Phe Cys Gln Pro Leu Gly Asp Arg Tyr Arg Asp Gln
 355 360 365
 Leu Pro Arg Leu Thr Arg Asp Ile Asp Ser Ile Leu Leu Leu Ala Gly
 370 375 380
 Tyr Tyr Asp Pro Val Val Ala Gln Ala Trp Leu Glu Asn Trp Gln Gly
 385 390 395 400
 Leu His His Ala Ile Ala Thr Gly Gln Arg Ile Glu Ile Glu His Phe
 405 410 415
 Arg Asn Glu Ala Asn Asn Gln Glu Pro Phe Trp Leu His Ser Gly Lys
 420 425 430
 Arg

<210> 328
 <211> 70
 <212> PRT
 <213> E. Coli

<400> 328
 Met Ser Gly Lys Met Thr Gly Ile Val Lys Trp Phe Asn Ala Asp Lys
 1 5 10 15
 Gly Phe Gly Phe Ile Thr Pro Asp Asp Gly Ser Lys Asp Val Phe Val
 20 25 30
 His Phe Ser Ala Ile Gln Asn Asp Gly Tyr Lys Ser Leu Asp Glu Gly
 35 40 45
 Gln Lys Val Ser Phe Thr Ile Glu Ser Gly Ala Lys Gly Pro Ala Ala
 50 55 60
 Gly Asn Val Thr Ser Leu
 65 70

<210> 329
 <211> 523
 <212> PRT
 <213> E. Coli

<400> 329
 Met Arg Asp Ile Val Asp Pro Val Phe Ser Ile Gly Ile Ser Ser Leu
 1 5 10 15
 Trp Asp Glu Leu Arg His Met Pro Ala Gly Gly Val Trp Trp Phe Asn
 20 25 30
 Val Asp Arg His Glu Asp Ala Ile Ser Leu Ala Asn Gln Thr Ile Ala
 35 40 45
 Ser Gln Ala Glu Thr Ala His Val Ala Val Ile Ser Met Asp Ser Asp
 50 55 60
 Pro Ala Lys Ile Phe Gln Leu Asp Asp Ser Gln Gly Pro Glu Lys Ile
 65 70 75 80
 Lys Leu Phe Ser Met Leu Asn His Glu Lys Gly Leu Tyr Tyr Leu Thr
 85 90 95
 Arg Asp Leu Gln Cys Ser Ile Asp Pro His Asn Tyr Leu Phe Ile Leu
 100 105 110
 Val Cys Ala Asn Asn Ala Trp Gln Asn Ile Pro Ala Glu Arg Leu Arg
 115 120 125
 Ser Trp Leu Asp Lys Met Asn Lys Trp Ser Arg Leu Asn His Cys Ser

130	135	140
Leu Leu Val Ile Asn Pro Gly Asn Asn Asn Asp Lys Gln Phe Ser Leu		
145	150	155
Leu Leu Glu Glu Tyr Arg Ser Leu Phe Gly Leu Ala Ser Leu Arg Phe		160
	165	170
Gln Gly Asp Gln His Leu Leu Asp Ile Ala Phe Trp Cys Asn Glu Lys		175
	180	185
Gly Val Ser Ala Arg Gln Gln Leu Ser Val Gln Gln Gln Asn Gly Ile		190
	195	200
Trp Thr Leu Val Gln Ser Glu Glu Ala Glu Ile Gln Pro Arg Ser Asp		205
	210	215
Glu Lys Arg Ile Leu Ser Asn Val Ala Val Leu Glu Gly Ala Pro Pro		220
225	230	235
Leu Ser Glu His Trp Gln Leu Phe Asn Asn Asn Glu Val Leu Phe Asn		240
	245	250
Glu Ala Arg Thr Ala Gln Ala Ala Thr Val Val Phe Ser Leu Gln Gln		255
	260	265
Asn Ala Gln Ile Glu Pro Leu Ala Arg Ser Ile His Thr Leu Arg Arg		270
	275	280
Gln Arg Gly Ser Ala Met Lys Ile Leu Val Arg Glu Asn Thr Ala Ser		285
290	295	300
Leu Arg Ala Thr Asp Glu Arg Leu Leu Leu Ala Cys Gly Ala Asn Met		305
	310	315
Val Ile Pro Trp Asn Ala Pro Leu Ser Arg Cys Leu Thr Met Ile Glu		320
	325	330
Ser Val Gln Gly Gln Lys Phe Ser Arg Tyr Val Pro Glu Asp Ile Thr		335
	340	345
Thr Leu Leu Ser Met Thr Gln Pro Leu Lys Leu Arg Gly Phe Gln Lys		350
	355	360
Trp Asp Val Phe Cys Asn Ala Val Asn Asn Met Met Asn Asn Pro Leu		365
	370	375
Leu Pro Ala His Gly Lys Gly Val Leu Val Ala Leu Arg Pro Val Pro		380
385	390	395
Gly Ile Arg Val Glu Gln Ala Leu Thr Leu Cys Arg Pro Asn Arg Thr		400
	405	410
Gly Asp Ile Met Thr Ile Gly Gly Asn Arg Leu Val Leu Phe Leu Ser		415
	420	425
Phe Cys Arg Ile Asn Asp Leu Asp Thr Ala Leu Asn His Ile Phe Pro		430
	435	440
Leu Pro Thr Gly Asp Ile Phe Ser Asn Arg Met Val Trp Phe Glu Asp		445
450	455	460
Asp Gln Ile Ser Ala Glu Leu Val Gln Met Arg Leu Leu Ala Pro Glu		465
	470	475
Gln Trp Gly Met Pro Leu Pro Leu Thr Gln Ser Ser Lys Pro Val Ile		480
	485	490
Asn Ala Glu His Asp Gly Arg His Trp Arg Arg Ile Pro Glu Pro Met		495
	500	505
Arg Leu Leu Asp Asp Ala Val Glu Arg Ser Ser		510
	515	520

<210> 330
 <211> 62
 <212> PRT
 <213> E. Coli

<400> 330

Met	Thr	Ile	Ser	Asp	Ile	Ile	Glu	Ile	Ile	Val	Val	Cys	Ala	Leu	Ile
1				5					10					15	
Phe	Phe	Pro	Leu	Gly	Tyr	Leu	Ala	Arg	His	Ser	Leu	Arg	Arg	Ile	Arg
			20					25					30		
Asp	Thr	Leu	Arg	Leu	Phe	Phe	Ala	Lys	Pro	Arg	Tyr	Val	Lys	Pro	Ala
		35					40					45			
Gly	Thr	Leu	Arg	Arg	Thr	Glu	Lys	Ala	Arg	Ala	Thr	Lys	Lys		
	50					55					60				

<210> 331
 <211> 559
 <212> PRT
 <213> E. Coli

<400> 331

Met	Thr	Gln	Phe	Thr	Gln	Asn	Thr	Ala	Met	Pro	Ser	Ser	Leu	Trp	Gln
1				5					10					15	
Tyr	Trp	Arg	Gly	Leu	Ser	Gly	Trp	Asn	Phe	Tyr	Phe	Leu	Val	Lys	Phe
			20					25					30		
Gly	Leu	Leu	Trp	Ala	Gly	Tyr	Leu	Asn	Phe	His	Pro	Leu	Leu	Asn	Leu
		35					40					45			
Val	Phe	Ala	Ala	Phe	Leu	Leu	Met	Pro	Leu	Pro	Arg	Tyr	Ser	Leu	His
	50					55					60				
Arg	Leu	Arg	His	Trp	Ile	Ala	Leu	Pro	Ile	Gly	Phe	Ala	Leu	Phe	Trp
65					70					75					80
His	Asp	Thr	Trp	Leu	Pro	Gly	Pro	Glu	Ser	Ile	Met	Ser	Gln	Gly	Ser
				85					90					95	
Gln	Val	Ala	Gly	Phe	Ser	Thr	Asp	Tyr	Leu	Ile	Asp	Leu	Val	Thr	Arg
			100					105					110		
Phe	Ile	Asn	Trp	Gln	Met	Ile	Gly	Ala	Ile	Phe	Val	Leu	Leu	Val	Ala
		115					120					125			
Trp	Leu	Phe	Leu	Ser	Gln	Trp	Ile	Arg	Ile	Thr	Val	Phe	Val	Val	Ala
	130					135					140				
Ile	Leu	Leu	Trp	Leu	Asn	Val	Leu	Thr	Leu	Ala	Gly	Pro	Ser	Phe	Ser
145					150					155					160
Leu	Trp	Pro	Ala	Gly	Gln	Pro	Thr	Thr	Thr	Val	Thr	Thr	Thr	Gly	Gly
				165					170					175	
Asn	Ala	Ala	Ala	Thr	Val	Ala	Ala	Thr	Gly	Gly	Ala	Pro	Val	Val	Gly
		180						185					190		
Asp	Met	Pro	Ala	Gln	Thr	Ala	Pro	Pro	Thr	Thr	Ala	Asn	Leu	Asn	Ala
		195					200					205			
Trp	Leu	Asn	Asn	Phe	Tyr	Asn	Ala	Glu	Ala	Lys	Arg	Lys	Ser	Thr	Phe
	210					215					220				
Pro	Ser	Ser	Leu	Pro	Ala	Asp	Ala	Gln	Pro	Phe	Glu	Leu	Leu	Val	Ile
225					230					235					240
Asn	Ile	Cys	Ser	Leu	Ser	Trp	Ser	Asp	Ile	Glu	Ala	Ala	Gly	Leu	Met
			245					250						255	
Ser	His	Pro	Leu	Trp	Ser	His	Phe	Asp	Ile	Glu	Phe	Lys	Asn	Phe	Asn
			260					265					270		
Ser	Ala	Thr	Ser	Tyr	Ser	Gly	Pro	Ala	Ala	Ile	Arg	Leu	Leu	Arg	Ala
		275					280					285			
Ser	Cys	Gly	Gln	Thr	Ser	His	Thr	Asn	Leu	Tyr	Gln	Pro	Ala	Asn	Asn
	290					295					300				
Asp	Cys	Tyr	Leu	Phe	Asp	Asn	Leu	Ser	Lys	Leu	Gly	Phe	Thr	Gln	His
305					310					315					320
Leu	Met	Met	Gly	His	Asn	Gly	Gln	Phe	Gly	Gly	Phe	Leu	Lys	Glu	Val

				325					330				335				
Arg	Glu	Asn	Gly	Gly	Met	Gln	Ser	Glu	Leu	Met	Asp	Gln	Thr	Asn	Leu		
			340					345					350				
Pro	Val	Ile	Leu	Leu	Gly	Phe	Asp	Gly	Ser	Pro	Val	Tyr	Asp	Asp	Thr		
		355					360					365					
Ala	Val	Leu	Asn	Arg	Trp	Leu	Asp	Val	Thr	Glu	Lys	Asp	Lys	Asn	Ser		
	370					375					380						
Arg	Ser	Ala	Thr	Phe	Tyr	Asn	Thr	Leu	Pro	Leu	His	Asp	Gly	Asn	His		
385					390					395					400		
Tyr	Pro	Gly	Val	Ser	Lys	Thr	Ala	Asp	Tyr	Lys	Ala	Arg	Ala	Gln	Lys		
			405					410						415			
Phe	Phe	Asp	Glu	Leu	Asp	Ala	Phe	Phe	Thr	Glu	Leu	Glu	Lys	Ser	Gly		
		420						425					430				
Arg	Lys	Val	Met	Val	Val	Val	Val	Pro	Glu	His	Gly	Gly	Ala	Leu	Lys		
	435						440					445					
Gly	Asp	Arg	Met	Gln	Val	Ser	Gly	Leu	Arg	Asp	Ile	Pro	Ser	Pro	Ser		
	450					455					460						
Ile	Thr	Asp	Val	Pro	Val	Gly	Val	Lys	Phe	Phe	Gly	Met	Lys	Ala	Pro		
465					470					475					480		
His	Gln	Gly	Ala	Pro	Ile	Val	Ile	Glu	Gln	Pro	Ser	Ser	Phe	Leu	Ala		
			485						490					495			
Ile	Ser	Asp	Leu	Val	Val	Arg	Val	Leu	Asp	Gly	Lys	Ile	Phe	Thr	Glu		
		500						505					510				
Asp	Asn	Val	Asp	Trp	Lys	Lys	Leu	Thr	Ser	Gly	Leu	Pro	Gln	Thr	Ala		
	515						520					525					
Pro	Val	Ser	Glu	Asn	Ser	Asn	Ala	Val	Val	Ile	Gln	Tyr	Gln	Asp	Lys		
	530					535					540						
Pro	Tyr	Val	Arg	Leu	Asn	Gly	Gly	Asp	Trp	Val	Pro	Tyr	Pro	Gln			
545					550					555							

<210> 332
 <211> 127
 <212> PRT
 <213> E. Coli

Met	Glu	Gly	Ser	Arg	Met	Lys	Tyr	Arg	Ile	Ala	Leu	Ala	Val	Ser	Leu		
1				5					10					15			
Phe	Ala	Leu	Ser	Ala	Gly	Ser	Tyr	Ala	Thr	Thr	Leu	Cys	Gln	Glu	Lys		
		20						25					30				
Glu	Gln	Asn	Ile	Leu	Lys	Glu	Ile	Ser	Tyr	Ala	Glu	Lys	His	Gln	Asn		
		35					40					45					
Gln	Asn	Arg	Ile	Asp	Gly	Leu	Asn	Lys	Ala	Leu	Ser	Glu	Val	Arg	Ala		
	50					55					60						
Asn	Cys	Ser	Asp	Ser	Gln	Leu	Arg	Ala	Asp	His	Gln	Lys	Lys	Ile	Ala		
65					70					75					80		
Lys	Gln	Lys	Asp	Glu	Val	Ala	Glu	Arg	Gln	Gln	Asp	Leu	Ala	Glu	Ala		
			85					90						95			
Lys	Gln	Lys	Gly	Asp	Ala	Asp	Lys	Ile	Ala	Lys	Arg	Glu	Arg	Lys	Leu		
		100					105					110					
Ala	Glu	Ala	Gln	Glu	Glu	Leu	Lys	Lys	Leu	Glu	Ala	Arg	Asp	Tyr			
	115						120					125					

<210> 333
 <211> 101

<212> PRT
 <213> E. Coli

<400> 333
 Met Ser Lys Glu His Thr Thr Glu His Leu Arg Ala Glu Leu Lys Ser
 1 5 10 15
 Leu Ser Asp Thr Leu Glu Glu Val Leu Ser Ser Ser Gly Glu Lys Ser
 20 25 30
 Lys Glu Glu Leu Ser Lys Ile Arg Ser Lys Ala Glu Gln Ala Leu Lys
 35 40 45
 Gln Ser Arg Tyr Arg Leu Gly Glu Thr Gly Asp Ala Ile Ala Lys Gln
 50 55 60
 Thr Arg Val Ala Ala Ala Arg Ala Asp Glu Tyr Val Arg Glu Asn Pro
 65 70 75 80
 Trp Thr Gly Val Gly Ile Gly Ala Ala Ile Gly Val Val Leu Gly Val
 85 90 95
 Leu Leu Ser Arg Arg
 100

<210> 334
 <211> 134
 <212> PRT
 <213> E. Coli

<400> 334
 Met Ala Asp Thr His His Ala Gln Gly Pro Gly Lys Ser Val Leu Gly
 1 5 10 15
 Ile Gly Gln Arg Ile Val Ser Ile Met Val Glu Met Val Glu Thr Arg
 20 25 30
 Leu Arg Leu Ala Val Val Glu Leu Glu Glu Lys Ala Asn Leu Phe
 35 40 45
 Gln Leu Leu Leu Met Leu Gly Leu Thr Met Leu Phe Ala Ala Phe Gly
 50 55 60
 Leu Met Ser Leu Met Val Leu Ile Ile Trp Ala Val Asp Pro Gln Tyr
 65 70 75 80
 Arg Leu Asn Ala Met Ile Ala Thr Thr Val Val Leu Leu Leu Leu Ala
 85 90 95
 Leu Ile Gly Gly Ile Trp Thr Leu Arg Lys Ser Arg Lys Ser Thr Leu
 100 105 110
 Leu Arg His Thr Arg His Glu Leu Ala Asn Asp Arg Gln Leu Leu Glu
 115 120 125
 Glu Glu Ser Arg Glu Gln
 130

<210> 335
 <211> 99
 <212> PRT
 <213> E. Coli

<400> 335
 Met Ser Ser Lys Val Glu Arg Glu Arg Arg Lys Ala Gln Leu Leu Ser
 1 5 10 15
 Gln Ile Gln Gln Arg Leu Asp Leu Ser Ala Ser Arg Arg Glu Trp
 20 25 30

Leu Glu Thr Thr Gly Ala Tyr Asp Arg Arg Trp Asn Met Leu Leu Ser
 35 40 45
 Leu Arg Ser Trp Ala Leu Val Gly Ser Ser Val Met Ala Ile Trp Thr
 50 55 60
 Ile Arg His Pro Asn Met Leu Val Arg Trp Ala Arg Arg Gly Phe Gly
 65 70 75 80
 Val Trp Ser Ala Trp Arg Leu Val Lys Thr Thr Leu Lys Gln Gln Gln
 85 90 95
 Leu Arg Gly

<210> 336
 <211> 160
 <212> PRT
 <213> E. Coli

<400> 336
 Met Ile Leu Ser Ile Asp Ser Asn Asp Ala Asn Thr Ala Pro Leu His
 1 5 10 15
 Lys Lys Thr Ile Ser Ser Leu Ser Gly Ala Val Glu Ser Met Met Lys
 20 25 30
 Lys Leu Glu Asp Val Gly Val Leu Val Ala Arg Ile Leu Met Pro Ile
 35 40 45
 Leu Phe Ile Thr Ala Gly Trp Gly Lys Ile Thr Gly Tyr Ala Gly Thr
 50 55 60
 Gln Gln Tyr Met Glu Ala Met Gly Val Pro Gly Phe Met Leu Pro Leu
 65 70 75 80
 Val Ile Leu Leu Glu Phe Gly Gly Gly Leu Ala Ile Leu Phe Gly Phe
 85 90 95
 Leu Thr Arg Thr Thr Ala Leu Phe Thr Ala Gly Phe Thr Leu Leu Thr
 100 105 110
 Ala Phe Leu Phe His Ser Asn Phe Ala Glu Gly Val Asn Ser Leu Met
 115 120 125
 Phe Met Lys Asn Leu Thr Ile Ser Gly Gly Phe Leu Leu Leu Ala Ile
 130 135 140
 Thr Gly Pro Gly Ala Tyr Ser Ile Asp Arg Leu Leu Asn Lys Lys Trp
 145 150 155 160

<210> 337
 <211> 296
 <212> PRT
 <213> E. Coli

<400> 337
 Met Ile Lys Lys Thr Thr Glu Ile Asp Ala Ile Leu Leu Asn Leu Asn
 1 5 10 15
 Lys Ala Ile Asp Ala His Tyr Gln Trp Leu Val Ser Met Phe His Ser
 20 25 30
 Val Val Ala Arg Asp Ala Ser Lys Pro Glu Ile Thr Asp Asn His Ser
 35 40 45
 Tyr Gly Leu Cys Gln Phe Gly Arg Trp Ile Asp His Leu Gly Pro Leu
 50 55 60
 Asp Asn Asp Glu Leu Pro Tyr Val Arg Leu Met Asp Ser Ala His Gln

65					70					75				80
His	Met	His	Asn	Cys	Gly	Arg	Glu	Leu	Met	Leu	Ala	Ile	Val	Glu Asn
				85					90					95
His	Trp	Gln	Asp	Ala	His	Phe	Asp	Ala	Phe	Gln	Glu	Gly	Leu	Leu Ser
			100					105					110	
Phe	Thr	Ala	Ala	Leu	Thr	Asp	Tyr	Lys	Ile	Tyr	Leu	Leu	Thr	Ile Arg
			115				120						125	
Ser	Asn	Met	Asp	Val	Leu	Thr	Gly	Leu	Pro	Gly	Arg	Arg	Val	Leu Asp
						135					140			
Glu	Ser	Phe	Asp	His	Gln	Leu	Arg	Asn	Ala	Glu	Pro	Leu	Asn	Leu Tyr
145					150					155				160
Leu	Met	Leu	Leu	Asp	Ile	Asp	Arg	Phe	Lys	Leu	Val	Asn	Asp	Thr Tyr
				165					170					175
Gly	His	Leu	Ile	Gly	Asp	Val	Val	Leu	Arg	Thr	Leu	Ala	Thr	Tyr Leu
			180					185					190	
Ala	Ser	Trp	Thr	Arg	Asp	Tyr	Glu	Thr	Val	Tyr	Arg	Tyr	Gly	Gly Glu
			195				200					205		
Glu	Phe	Ile	Ile	Ile	Val	Lys	Ala	Ala	Asn	Asp	Glu	Glu	Ala	Cys Arg
						215					220			
Ala	Gly	Val	Arg	Ile	Cys	Gln	Leu	Val	Asp	Asn	His	Ala	Ile	Thr His
225					230					235				240
Ser	Glu	Gly	His	Ile	Asn	Ile	Thr	Val	Thr	Ala	Gly	Val	Ser	Arg Ala
				245					250					255
Phe	Pro	Glu	Glu	Pro	Leu	Asp	Val	Val	Ile	Gly	Arg	Ala	Asp	Arg Ala
			260					265					270	
Met	Tyr	Glu	Gly	Lys	Gln	Thr	Gly	Arg	Asn	Arg	Cys	Met	Phe	Ile Asp
		275					280					285		
Glu	Gln	Asn	Val	Ile	Asn	Arg	Val							
		290				295								

<210> 338
 <211> 203
 <212> PRT
 <213> E. Coli

<400> 338

Met	Arg	Leu	Arg	Val	Val	Pro	Gly	Phe	Ile	Ser	Pro	Pro	Pro	Gly	Phe
1				5					10					15	
Gly	Gly	Leu	Gly	Tyr	Thr	Pro	Thr	Ala	Arg	Ala	Cys	Val	Asn	Ile	Ser
			20					25					30		
Ile	Pro	Leu	Gln	Leu	Arg	Val	Ile	Asp	Met	Leu	Asp	Val	Phe	Thr	Pro
		35					40					45			
Leu	Leu	Lys	Leu	Phe	Ala	Asn	Glu	Pro	Leu	Glu	Arg	Leu	Met	Tyr	Thr
		50				55					60				
Ile	Ile	Ile	Phe	Gly	Leu	Thr	Leu	Trp	Leu	Ile	Pro	Lys	Glu	Phe	Thr
65				70					75					80	
Val	Ala	Phe	Asn	Ala	Tyr	Thr	Glu	Ile	Pro	Trp	Leu	Phe	Gln	Ile	Ile
			85						90				95		
Val	Phe	Ala	Phe	Ser	Phe	Val	Val	Ala	Ile	Ser	Phe	Ser	Arg	Leu	Arg
			100					105					110		
Ala	His	Ile	Gln	Lys	His	Tyr	Ser	Leu	Leu	Pro	Glu	Gln	Arg	Val	Leu
		115					120					125			
Leu	Arg	Leu	Ser	Glu	Lys	Glu	Ile	Ala	Val	Phe	Lys	Asp	Phe	Leu	Lys
		130				135					140				
Thr	Gly	Asn	Leu	Ile	Ile	Thr	Ser	Pro	Cys	Arg	Asn	Pro	Val	Met	Lys

145 150 155 160
 Lys Leu Glu Arg Lys Gly Ile Ile Gln His Gln Ser Asp Ser Ala Asn
 165 170 175
 Cys Ser Tyr Tyr Leu Val Thr Glu Lys Tyr Ser His Phe Met Lys Leu
 180 185 190
 Phe Trp Asn Ser Arg Ser Arg Arg Phe Asn Arg
 195 200

<210> 339
 <211> 58
 <212> PRT
 <213> E. Coli

<400> 339
 Met Leu Leu Gln Pro Ser Ala Arg Thr Ser Phe Gly Phe Lys Cys Phe
 1 5 10 15
 Ala Phe Gly Ile Arg His Gly Ser Glu Arg Ser Ile Leu Val Gly Glu
 20 25 30
 His Ala Ala His Gln Gly Phe Val Val Ala Glu Val Asp Phe Leu His
 35 40 45
 Phe Ala Asn Leu Thr Ser Cys Cys Tyr Val
 50 55

<210> 340
 <211> 1426
 <212> PRT
 <213> E. Coli

<400> 340
 Met Ser Gly Lys Pro Ala Ala Arg Gln Gly Asp Met Thr Gln Tyr Gly
 1 5 10 15
 Gly Pro Ile Val Gln Gly Ser Ala Gly Val Arg Ile Gly Ala Pro Thr
 20 25 30
 Gly Val Ala Cys Ser Val Cys Pro Gly Gly Met Thr Ser Gly Asn Pro
 35 40 45
 Val Asn Pro Leu Leu Gly Ala Lys Val Leu Pro Gly Glu Thr Asp Leu
 50 55 60
 Ala Leu Pro Gly Pro Leu Pro Phe Ile Leu Ser Arg Thr Tyr Ser Ser
 65 70 75 80
 Tyr Arg Thr Lys Thr Pro Ala Pro Val Gly Val Phe Gly Pro Gly Trp
 85 90 95
 Lys Ala Pro Ser Asp Ile Arg Leu Gln Leu Arg Asp Asp Gly Leu Ile
 100 105 110
 Leu Asn Asp Asn Gly Gly Arg Ser Ile His Phe Glu Pro Leu Leu Pro
 115 120 125
 Gly Glu Ala Val Tyr Ser Arg Ser Glu Ser Met Trp Leu Val Arg Gly
 130 135 140
 Gly Lys Ala Ala Gln Pro Asp Gly His Thr Leu Ala Arg Leu Trp Gly
 145 150 155 160
 Ala Leu Pro Pro Asp Ile Arg Leu Ser Pro His Leu Tyr Leu Ala Thr
 165 170 175
 Asn Ser Ala Gln Gly Pro Trp Trp Ile Leu Gly Trp Ser Glu Arg Val
 180 185 190
 Pro Gly Ala Glu Asp Val Leu Pro Ala Pro Leu Pro Pro Tyr Arg Val

His Ser Val Phe Ser Tyr Asp Ala Leu Asp Arg Leu Val Gln Gln Gly
 660 665 670
 Gly Phe Asp Gly Arg Thr Gln Arg Tyr His Tyr Asp Leu Thr Gly Lys
 675 680 685
 Leu Thr Gln Ser Glu Asp Glu Gly Leu Val Ile Leu Trp Tyr Tyr Asp
 690 695 700
 Glu Ser Asp Arg Ile Thr His Arg Thr Val Asn Gly Glu Pro Ala Glu
 705 710 715 720
 Gln Trp Gln Tyr Asp Gly His Gly Trp Leu Thr Asp Ile Ser His Leu
 725 730 735
 Ser Glu Gly His Arg Val Ala Val His Tyr Gly Tyr Asp Asp Lys Gly
 740 745 750
 Arg Leu Thr Gly Glu Cys Gln Thr Val Glu Asn Pro Glu Thr Gly Glu
 755 760 765
 Leu Leu Trp Gln His Glu Thr Lys His Ala Tyr Asn Glu Gln Gly Leu
 770 775 780
 Ala Asn Arg Val Thr Pro Asp Ser Leu Pro Pro Val Glu Trp Leu Thr
 785 790 795 800
 Tyr Gly Ser Gly Tyr Leu Ala Gly Met Lys Leu Gly Gly Thr Pro Leu
 805 810 815
 Val Glu Tyr Thr Arg Asp Arg Leu His Arg Glu Thr Val Arg Ser Phe
 820 825 830
 Gly Ser Met Ala Gly Ser Asn Ala Ala Tyr Glu Leu Thr Ser Thr Tyr
 835 840 845
 Thr Pro Ala Gly Gln Leu Gln Ser Gln His Leu Asn Ser Leu Val Tyr
 850 855 860
 Asp Arg Asp Tyr Gly Trp Ser Asp Asn Gly Asp Leu Val Arg Ile Ser
 865 870 875 880
 Gly Pro Arg Gln Thr Arg Glu Tyr Gly Tyr Ser Ala Thr Gly Arg Leu
 885 890 895
 Glu Ser Val Arg Thr Leu Ala Pro Asp Leu Asp Ile Arg Ile Pro Tyr
 900 905 910
 Ala Thr Asp Pro Ala Gly Asn Arg Leu Pro Asp Pro Glu Leu His Pro
 915 920 925
 Asp Ser Thr Leu Thr Val Trp Pro Asp Asn Arg Ile Ala Glu Asp Ala
 930 935 940
 His Tyr Val Tyr Arg His Asp Glu Tyr Gly Arg Leu Thr Glu Lys Thr
 945 950 955 960
 Asp Arg Ile Pro Ala Gly Val Ile Arg Thr Asp Asp Glu Arg Thr His
 965 970 975
 His Tyr His Tyr Asp Ser Gln His Arg Leu Val Phe Tyr Thr Arg Ile
 980 985 990
 Gln His Gly Glu Pro Leu Val Glu Ser Arg Tyr Leu Tyr Asp Pro Leu
 995 1000 1005
 Gly Arg Arg Met Ala Lys Arg Val Trp Arg Arg Glu Arg Asp Leu Thr
 1010 1015 1020
 Gly Trp Met Ser Leu Ser Arg Lys Pro Glu Val Thr Trp Tyr Gly Trp
 1025 1030 1035 1040
 Asp Gly Asp Arg Leu Thr Thr Val Gln Thr Asp Thr Thr Arg Ile Gln
 1045 1050 1055
 Thr Val Tyr Glu Pro Gly Ser Phe Thr Pro Leu Ile Arg Val Glu Thr
 1060 1065 1070
 Glu Asn Gly Glu Arg Glu Lys Ala Gln Arg Arg Ser Leu Ala Glu Thr
 1075 1080 1085
 Leu Gln Gln Glu Gly Ser Glu Asn Gly His Gly Val Val Phe Pro Ala
 1090 1095 1100
 Glu Leu Val Arg Leu Leu Asp Arg Leu Glu Glu Glu Ile Arg Ala Asp

1105 1110 1115 1120
 Arg Val Ser Ser Glu Ser Arg Ala Trp Leu Ala Gln Cys Gly Leu Thr
 1125 1130 1135
 Val Glu Gln Leu Ala Arg Gln Val Glu Pro Glu Tyr Thr Pro Ala Arg
 1140 1145 1150
 Lys Ala His Leu Tyr His Cys Asp His Arg Gly Leu Pro Leu Ala Leu
 1155 1160 1165
 Ile Ser Glu Asp Gly Asn Thr Ala Trp Ser Ala Glu Tyr Asp Glu Trp
 1170 1175 1180
 Gly Asn Gln Leu Asn Glu Glu Asn Pro His His Val Tyr Gln Pro Tyr
 1185 1190 1195 1200
 Arg Leu Pro Gly Gln Gln His Asp Glu Glu Ser Gly Leu Tyr Tyr Asn
 1205 1210 1215
 Arg His Arg Tyr Tyr Asp Pro Leu Gln Gly Arg Tyr Ile Thr Gln Asp
 1220 1225 1230
 Pro Met Gly Leu Lys Gly Gly Trp Asn Leu Tyr Gln Tyr Pro Leu Asn
 1235 1240 1245
 Pro Leu Gln Gln Ile Asp Pro Met Gly Leu Leu Gln Thr Trp Asp Asp
 1250 1255 1260
 Ala Arg Ser Gly Ala Cys Thr Gly Gly Val Cys Gly Val Leu Ser Arg
 1265 1270 1275 1280
 Ile Ile Gly Pro Ser Lys Phe Asp Ser Thr Ala Asp Ala Ala Leu Asp
 1285 1290 1295
 Ala Leu Lys Glu Thr Gln Asn Arg Ser Leu Cys Asn Asp Met Glu Tyr
 1300 1305 1310
 Ser Gly Ile Val Cys Lys Asp Thr Asn Gly Lys Tyr Phe Ala Ser Lys
 1315 1320 1325
 Ala Glu Thr Asp Asn Leu Arg Lys Glu Ser Tyr Pro Leu Lys Arg Lys
 1330 1335 1340
 Cys Pro Thr Gly Thr Asp Arg Val Ala Ala Tyr His Thr His Gly Ala
 1345 1350 1355 1360
 Asp Ser His Gly Asp Tyr Val Asp Glu Phe Phe Ser Ser Ser Asp Lys
 1365 1370 1375
 Asn Leu Val Arg Ser Lys Asp Asn Asn Leu Glu Ala Phe Tyr Leu Ala
 1380 1385 1390
 Thr Pro Asp Gly Arg Phe Glu Ala Leu Asn Asn Lys Gly Glu Tyr Ile
 1395 1400 1405
 Phe Ile Arg Asn Ser Val Pro Gly Leu Ser Ser Val Cys Ile Pro Tyr
 1410 1415 1420
 His Asp
 1425

<210> 341
 <211> 122
 <212> PRT
 <213> E. Coli

<400> 341
 Met Lys Tyr Ser Ser Ile Phe Ser Met Leu Ser Phe Phe Ile Leu Phe
 1 5 10 15
 Ala Cys Asn Glu Thr Ala Val Tyr Gly Ser Asp Glu Asn Ile Ile Phe
 20 25 30
 Met Arg Tyr Val Glu Lys Leu His Leu Asp Lys Tyr Ser Val Lys Asn
 35 40 45
 Thr Val Lys Thr Glu Thr Met Ala Ile Gln Leu Ala Glu Ile Tyr Val
 50 55 60

Arg Tyr Arg Tyr Gly Glu Arg Ile Ala Glu Glu Glu Lys Pro Tyr Leu
65 70 75 80
Ile Thr Glu Leu Pro Asp Ser Trp Val Val Glu Gly Ala Lys Leu Pro
85 90 95
Tyr Glu Val Ala Gly Gly Val Phe Ile Ile Glu Ile Asn Lys Lys Asn
100 105 110
Gly Cys Val Leu Asn Phe Leu His Ser Lys
115 120

<210> 342
<211> 236
<212> PRT
<213> E. Coli

<400> 342
Met Leu Ala Leu Met Asp Ala Asp Gly Asn Ile Ala Trp Ser Gly Glu
1 5 10 15
Tyr Asp Glu Trp Gly Asn Gln Leu Asn Glu Glu Asn Pro His His Leu
20 25 30
His Gln Pro Tyr Arg Leu Pro Gly Gln Gln Tyr Asp Lys Glu Ser Gly
35 40 45
Leu Tyr Tyr Asn Arg Asn Arg Tyr Tyr Asp Pro Leu Gln Gly Arg Tyr
50 55 60
Ile Thr Gln Asp Pro Ile Gly Leu Glu Gly Gly Trp Ser Leu Tyr Ala
65 70 75 80
Tyr Pro Leu Asn Pro Val Asn Gly Ile Asp Pro Leu Gly Leu Ser Pro
85 90 95
Ala Asp Val Ala Leu Ile Arg Arg Lys Asp Gln Leu Asn His Gln Arg
100 105 110
Ala Trp Asp Ile Leu Ser Asp Thr Tyr Glu Asp Met Lys Arg Leu Asn
115 120 125
Leu Gly Gly Thr Asp Gln Phe Phe His Cys Met Ala Phe Cys Arg Val
130 135 140
Ser Lys Leu Asn Asp Ala Gly Val Ser Arg Ser Ala Lys Gly Leu Gly
145 150 155 160
Tyr Glu Lys Glu Ile Arg Asp Tyr Gly Leu Asn Leu Phe Gly Met Tyr
165 170 175
Gly Arg Lys Val Lys Leu Ser His Ser Glu Met Ile Glu Asp Asn Lys
180 185 190
Lys Asp Leu Ala Val Asn Asp His Gly Leu Thr Cys Pro Ser Thr Thr
195 200 205
Asp Cys Ser Asp Arg Cys Ser Asp Tyr Ile Asn Pro Glu His Lys Lys
210 215 220
Thr Ile Lys Ala Leu Gln Asp Ala Gly Tyr Leu Lys
225 230 235

<210> 343
<211> 86
<212> PRT
<213> E. Coli

<400> 343
Met Leu Ala Ile Ser Ser Asn Leu Ser Lys Met Ile Ile Phe Ile Phe
1 5 10 15
Ala Ile Ile Ile Ile Val Val Leu Cys Val Ile Thr Tyr Leu Tyr Leu

```
<210> 344
<211> 63
<212> PRT
<213> E. Coli
```

```
<210> 345
<211> 167
<212> PRT
<213> E. Coli
```

178

<210> 346
 <211> 91
 <212> PRT
 <213> E. Coli

<400> 346
 Met Ala Ser Val Ser Ile Ser Cys Pro Ser Cys Ser Ala Thr Asp Gly
 1 5 10 15
 Val Val Arg Asn Gly Lys Ser Thr Ala Gly His Gln Arg Tyr Leu Cys
 20 25 30
 Ser His Cys Arg Lys Thr Trp Gln Leu Gln Phe Thr Tyr Thr Ala Ser
 35 40 45
 Gln Pro Gly Thr His Gln Lys Ile Ile Asp Met Ala Met Asn Gly Val
 50 55 60
 Gly Cys Arg Ala Thr Ala Arg Ile Met Gly Val Gly Leu Asn Thr Ile
 65 70 75 80
 Leu Arg His Leu Lys Asn Ser Gly Arg Ser Arg
 85 90

<210> 347
 <211> 138
 <212> PRT
 <213> E. Coli

<400> 347
 Met Met Thr Lys Thr Gln Ile Asn Lys Leu Ile Lys Met Met Asn Asp
 1 5 10 15
 Leu Asp Tyr Pro Phe Glu Ala Pro Leu Lys Glu Ser Phe Ile Glu Ser
 20 25 30
 Ile Ile Gln Ile Glu Phe Asn Ser Asn Ser Thr Asn Cys Leu Glu Lys
 35 40 45
 Leu Cys Asn Glu Val Ser Ile Leu Phe Lys Asn Gln Pro Asp Tyr Leu
 50 55 60
 Thr Phe Leu Arg Ala Met Asp Gly Phe Glu Val Asn Gly Leu Arg Leu
 65 70 75 80
 Phe Ser Leu Ser Ile Pro Glu Pro Ser Val Lys Asn Leu Phe Ala Val
 85 90 95
 Asn Glu Phe Tyr Arg Asn Asn Asp Asp Phe Ile Asn Pro Asp Leu Gln
 100 105 110
 Glu Arg Leu Val Ile Gly Asp Tyr Ser Ile Ser Ile Phe Thr Tyr Asp
 115 120 125
 Ile Lys Gly Asp Ala Ala Asn Leu Leu Ile
 130 135

<210> 348
 <211> 392
 <212> PRT
 <213> E. Coli

<400> 348
 Met Ser Asn Ile Val Tyr Leu Thr Val Thr Gly Glu Gln Gln Gly Ser
 1 5 10 15

Met	Val	Leu	Ala	Leu	Asn	Tyr	Asn	Met	His	Gly	Val	Asn	Ile	Arg	Ser
1				5					10					15	
Glu	Asn	Ala	Ala	Lys	Pro	His	Thr	Met	Pro	Ser	Arg	Tyr	Leu	Cys	Glu
		20						25					30		
Tyr	Ile	Arg	Ser	Ile	Glu	Lys	Asn	Gly	His	Ala	Leu	Asp	Phe	Gly	Cys
	35						40					45			
Gly	Lys	Leu	Arg	Tyr	Ser	Asp	Glu	Leu	Ile	Ser	Lys	Phe	Asp	Glu	Val
	50					55					60				
Thr	Phe	Leu	Asp	Ser	Lys	Arg	Gln	Leu	Glu	Arg	Glu	Gln	Ile	Ile	Arg
65					70					75					80
Gly	Ile	Lys	Thr	Lys	Ile	Ile	Asp	Tyr	Val	Pro	Arg	Tyr	Tyr	Lys	Asn
				85					90					95	
Ala	Asn	Thr	Val	Ala	Phe	Glu	Asp	Val	Asp	Lys	Ile	Ile	Gly	Gly	Tyr
			100					105					110		
Asp	Phe	Ile	Leu	Cys	Ser	Asn	Val	Leu	Ser	Ala	Val	Pro	Cys	Arg	Asp
	115						120					125			
Thr	Ile	Asp	Lys	Ile	Val	Leu	Ser	Ile	Lys	Arg	Leu	Leu	Lys	Ser	Gly
	130					135					140				
Gly	Glu	Thr	Leu	Ile	Val	Asn	Gln	Tyr	Lys	Ser	Ser	Tyr	Phe	Lys	Lys
145					150					155					160
Tyr	Glu	Thr	Gly	Arg	Lys	His	Leu	Tyr	Gly	Tyr	Ile	Tyr	Lys	Asn	Ser
			165						170					175	
Lys	Ser	Val	Ser	Tyr	Tyr	Gly	Leu	Leu	Asp	Glu	Leu	Ala	Val	Gln	Glu
			180					185					190		
Ile	Cys	Ser	Ser	His	Gly	Leu	Glu	Ile	Leu	Lys	Ser	Trp	Ser	Lys	Ala
	195						200					205			
Gly	Ser	Ser	Tyr	Val	Thr	Val	Gly	Ser	Cys	Asn	Ala	Ile			
	210					215					220				

<210> 350

<211> 234

<212> PRT

<213> E. Coli

<400> 350

Met	Asn	Asn	Met	Phe	Glu	Pro	Pro	Lys	Asn	Tyr	Asn	Glu	Met	Leu	Pro
1				5					10					15	
Lys	Leu	His	Lys	Ala	Thr	Phe	Leu	Asn	Thr	Leu	Ile	Tyr	Cys	Ile	Leu
			20					25					30		
Leu	Val	Ile	Tyr	Glu	Tyr	Ile	Pro	Leu	Ile	Thr	Leu	Pro	Thr	Lys	Tyr
		35					40					45			
Val	Pro	Pro	Ile	Lys	Asp	His	Glu	Ser	Phe	Ile	Asn	Trp	Ala	Leu	Ser
	50					55					60				
Phe	Gly	Ile	Leu	Pro	Cys	Ala	Phe	Ala	Ile	Phe	Ala	Tyr	Leu	Ile	Ser
65					70					75					80
Gly	Ala	Leu	Asp	Leu	His	Asn	Asn	Ala	Ala	Lys	Leu	Leu	Arg	Val	Arg
				85					90					95	
Tyr	Leu	Trp	Asp	Lys	His	Leu	Ile	Ile	Lys	Pro	Leu	Ser	Arg	Arg	Ala
			100					105					110		
Gly	Val	Asn	Arg	Lys	Leu	Asn	Lys	Asp	Glu	Ala	His	Asn	Val	Met	Ser
		115					120					125			
Asn	Leu	Tyr	Tyr	Pro	Glu	Val	Arg	Lys	Ile	Glu	Asp	Lys	His	Tyr	Ile
	130					135					140				
Glu	Leu	Phe	Trp	Asn	Lys	Val	Tyr	Tyr	Phe	Trp	Ile	Phe	Phe	Glu	Phe
145					150					155					160
Ser	Ile	Ile	Ala	Leu	Ile	Ser	Phe	Leu	Ile	Ile	Phe	Phe	Cys	Lys	Gln

				165				170				175			
Met	Asp	Ile	Phe	His	Val	Glu	Gly	Ser	Leu	Leu	Ser	Leu	Phe	Phe	Phe
			180					185					190		
Val	Ile	Leu	Ser	Phe	Ser	Val	Ser	Gly	Ile	Ile	Phe	Ala	Leu	Thr	Val
		195					200					205			
Lys	Pro	Arg	Thr	Glu	Ser	Gln	Val	Gly	Lys	Ile	Pro	Asp	Asp	Lys	Ile
	210					215					220				
Lys	Glu	Phe	Phe	Thr	Lys	Asn	Asn	Ile	Asn						
225					230										

<210> 351
 <211> 94
 <212> PRT
 <213> E. Coli

Met	Phe	Thr	Ile	Asn	Ala	Glu	Val	Arg	Lys	Glu	Gln	Gly	Lys	Gly	Ala
1				5					10					15	
Ser	Arg	Arg	Leu	Arg	Ala	Ala	Asn	Lys	Phe	Pro	Ala	Ile	Ile	Tyr	Gly
			20					25					30		
Gly	Lys	Glu	Ala	Pro	Leu	Ala	Ile	Glu	Leu	Asp	His	Asp	Lys	Val	Met
		35					40					45			
Asn	Met	Gln	Ala	Lys	Ala	Glu	Phe	Tyr	Ser	Glu	Val	Leu	Thr	Ile	Val
	50					55					60				
Val	Asp	Gly	Lys	Glu	Ile	Lys	Val	Lys	Ala	Gln	Asp	Val	Gln	Arg	His
65					70					75					80
Pro	Tyr	Lys	Pro	Lys	Leu	Gln	His	Ile	Asp	Phe	Val	Arg	Ala		
				85					90						

<210> 352
 <211> 658
 <212> PRT
 <213> E. Coli

Met	Val	Leu	Phe	Tyr	Arg	Ala	His	Trp	Arg	Asp	Tyr	Lys	Asn	Asp	Gln
1				5					10					15	
Val	Arg	Ile	Met	Met	Asn	Leu	Thr	Thr	Leu	Thr	His	Arg	Asp	Ala	Leu
			20					25					30		
Cys	Leu	Asn	Ala	Arg	Phe	Thr	Ser	Arg	Glu	Glu	Ala	Ile	His	Ala	Leu
		35					40					45			
Thr	Gln	Arg	Leu	Ala	Ala	Leu	Gly	Lys	Ile	Ser	Ser	Thr	Glu	Gln	Phe
	50					55					60				
Leu	Glu	Glu	Val	Tyr	Arg	Arg	Glu	Ser	Leu	Gly	Pro	Thr	Ala	Leu	Gly
65					70					75					80
Glu	Gly	Leu	Ala	Val	Pro	His	Gly	Lys	Thr	Ala	Ala	Val	Lys	Glu	Ala
				85					90					95	
Ala	Phe	Ala	Val	Ala	Thr	Leu	Ser	Glu	Pro	Leu	Gln	Trp	Glu	Gly	Val
			100					105					110		
Asp	Gly	Pro	Glu	Ala	Val	Asp	Leu	Val	Val	Leu	Leu	Ala	Ile	Pro	Pro
		115					120					125			
Asn	Glu	Ala	Gly	Thr	Thr	His	Met	Gln	Leu	Leu	Thr	Ala	Leu	Thr	Thr
	130					135					140				
Arg	Leu	Ala	Asp	Asp	Glu	Ile	Arg	Ala	Arg	Ile	Gln	Ser	Ala	Thr	Thr

145	Pro	Asp	Glu	Leu	Leu	Ser	Ala	Leu	Asp	Asp	Lys	Gly	Gly	Thr	Gln	Pro
					165					170					175	
	Ser	Ala	Ser	Phe	Ser	Asn	Ala	Pro	Thr	Ile	Val	Cys	Val	Thr	Ala	Cys
				180					185					190		
	Pro	Ala	Gly	Ile	Ala	His	Thr	Tyr	Met	Ala	Ala	Glu	Tyr	Leu	Glu	Lys
			195					200					205			
	Ala	Gly	Arg	Lys	Leu	Gly	Val	Asn	Val	Tyr	Val	Glu	Lys	Gln	Gly	Ala
		210					215					220				
	Asn	Gly	Ile	Glu	Gly	Arg	Leu	Thr	Ala	Asp	Gln	Leu	Asn	Ser	Ala	Thr
225					230						235					240
	Ala	Cys	Ile	Phe	Ala	Ala	Glu	Val	Ala	Ile	Lys	Glu	Ser	Glu	Arg	Phe
				245					250						255	
	Asn	Gly	Ile	Pro	Ala	Leu	Ser	Val	Pro	Val	Ala	Glu	Pro	Ile	Arg	His
			260					265						270		
	Ala	Glu	Ala	Leu	Ile	Gln	Gln	Ala	Leu	Thr	Leu	Lys	Arg	Ser	Asp	Glu
		275					280					285				
	Thr	Arg	Thr	Val	Gln	Gln	Asp	Thr	Gln	Pro	Val	Lys	Ser	Val	Lys	Thr
		290				295					300					
	Glu	Leu	Lys	Gln	Ala	Leu	Leu	Ser	Gly	Ile	Ser	Phe	Ala	Val	Pro	Leu
305					310					315						320
	Ile	Val	Ala	Gly	Gly	Thr	Val	Leu	Ala	Val	Ala	Val	Leu	Leu	Ser	Gln
				325					330						335	
	Ile	Phe	Gly	Leu	Gln	Asp	Leu	Phe	Asn	Glu	Glu	Asn	Ser	Trp	Leu	Trp
			340					345						350		
	Met	Tyr	Arg	Lys	Leu	Gly	Gly	Gly	Leu	Leu	Gly	Ile	Leu	Met	Val	Pro
		355				360						365				
	Val	Leu	Ala	Ala	Tyr	Thr	Ala	Tyr	Ser	Leu	Ala	Asp	Lys	Pro	Ala	Leu
		370				375					380					
	Ala	Pro	Gly	Phe	Ala	Ala	Gly	Leu	Ala	Ala	Asn	Met	Ile	Gly	Ser	Gly
385					390					395						400
	Phe	Leu	Gly	Ala	Val	Val	Gly	Gly	Leu	Ile	Ala	Gly	Tyr	Leu	Met	Arg
				405					410						415	
	Trp	Val	Lys	Asn	His	Leu	Arg	Leu	Ser	Ser	Lys	Phe	Asn	Gly	Phe	Leu
			420					425					430			
	Thr	Phe	Tyr	Leu	Tyr	Pro	Val	Leu	Gly	Thr	Leu	Gly	Ala	Gly	Ser	Leu
		435				440						445				
	Met	Leu	Phe	Val	Val	Gly	Glu	Pro	Val	Ala	Trp	Ile	Asn	Asn	Ser	Leu
		450			455						460					
	Thr	Ala	Trp	Leu	Asn	Gly	Leu	Ser	Gly	Ser	Asn	Ala	Leu	Leu	Leu	Gly
465					470					475						480
	Ala	Ile	Leu	Gly	Phe	Met	Cys	Ser	Phe	Asp	Leu	Gly	Gly	Pro	Val	Asn
				485					490						495	
	Lys	Ala	Ala	Tyr	Ala	Phe	Cys	Leu	Gly	Ala	Met	Ala	Asn	Gly	Val	Tyr
			500					505					510			
	Gly	Pro	Tyr	Ala	Ile	Phe	Ala	Ser	Val	Lys	Met	Val	Ser	Ala	Phe	Thr
		515					520						525			
	Val	Thr	Ala	Ser	Thr	Met	Leu	Ala	Pro	Arg	Leu	Phe	Lys	Glu	Phe	Glu
		530				535					540					
	Ile	Glu	Thr	Gly	Lys	Ser	Thr	Trp	Leu	Leu	Gly	Leu	Ala	Gly	Ile	Thr
545					550					555						560
	Glu	Gly	Ala	Ile	Pro	Met	Ala	Ile	Glu	Asp	Pro	Leu	Arg	Val	Ile	Gly
				565					570						575	
	Ser	Phe	Val	Leu	Gly	Ser	Met	Val	Thr	Gly	Ala	Ile	Val	Gly	Ala	Met
			580					585					590			
	Asn	Ile	Gly	Leu	Ser	Thr	Pro	Gly	Ala	Gly	Ile	Phe	Ser	Leu	Phe	Leu
		595					600					605				

Leu His Asp Asn Gly Ala Gly Gly Val Met Ala Ala Ile Gly Trp Phe
 610 615 620
 Gly Ala Ala Leu Val Gly Ala Ala Ile Ser Thr Ala Ile Leu Leu Met
 625 630 635 640
 Trp Arg Arg His Ala Val Lys His Gly Asn Tyr Leu Thr Asp Gly Val
 645 650 655
 Met Pro

<210> 353
 <211> 877
 <212> PRT
 <213> E. Coli

<400> 353
 Met Lys Ala Val Ser Arg Val His Ile Thr Pro His Met His Trp Asp
 1 5 10 15
 Arg Glu Trp Tyr Phe Thr Thr Glu Glu Ser Arg Ile Leu Leu Val Asn
 20 25 30
 Asn Met Glu Glu Ile Leu Cys Arg Leu Glu Gln Asp Asn Glu Tyr Lys
 35 40 45
 Tyr Tyr Val Leu Asp Gly Gln Thr Ala Ile Leu Glu Asp Tyr Phe Ala
 50 55 60
 Val Lys Pro Glu Asn Lys Asp Arg Val Lys Lys Gln Val Glu Ala Gly
 65 70 75 80
 Lys Leu Ile Ile Gly Pro Trp Tyr Thr Gln Thr Asp Thr Thr Ile Val
 85 90 95
 Ser Ala Glu Ser Ile Val Arg Asn Leu Met Tyr Gly Met Arg Asp Cys
 100 105 110
 Leu Ala Phe Gly Glu Pro Met Lys Ile Gly Tyr Leu Pro Asp Ser Phe
 115 120 125
 Gly Met Ser Gly Gln Leu Pro His Ile Tyr Asn Gly Phe Gly Ile Thr
 130 135 140
 Arg Thr Met Phe Trp Arg Gly Cys Ser Glu Arg His Gly Thr Asp Lys
 145 150 155 160
 Thr Glu Phe Leu Trp Gln Ser Ser Asp Gly Ser Glu Val Thr Ala Gln
 165 170 175
 Val Leu Pro Leu Gly Tyr Ala Ile Gly Lys Tyr Leu Pro Ala Asp Glu
 180 185 190
 Asn Gly Leu Arg Lys Arg Leu Asp Ser Tyr Phe Asp Val Leu Glu Lys
 195 200 205
 Ala Ser Val Thr Lys Glu Ile Leu Leu Pro Asn Gly His Asp Gln Met
 210 215 220
 Pro Leu Gln Gln Asn Ile Phe Glu Val Met Asp Lys Leu Arg Glu Ile
 225 230 235 240
 Tyr Pro Gln Arg Lys Phe Val Met Ser Arg Phe Glu Glu Val Phe Glu
 245 250 255
 Lys Ile Glu Ala Gln Arg Asp Asn Leu Ala Thr Leu Lys Gly Glu Phe
 260 265 270
 Ile Asp Gly Lys Tyr Met Arg Val His Arg Thr Ile Gly Ser Thr Arg
 275 280 285
 Met Asp Ile Lys Ile Ala His Ala Arg Ile Glu Asn Lys Ile Val Asn
 290 295 300
 Leu Leu Glu Pro Leu Ala Thr Leu Ala Trp Thr Leu Gly Phe Glu Tyr
 305 310 315 320
 His His Gly Leu Leu Glu Lys Met Trp Lys Glu Ile Leu Lys Asn His

				325					330				335				
Ala	His	Asp	Ser	Ile	Gly	Cys	Cys	Cys	Ser	Asp	Lys	Val	His	Arg	Glu		
			340					345					350				
Ile	Val	Ala	Arg	Phe	Glu	Leu	Ala	Glu	Asp	Met	Ala	Asp	Asn	Leu	Ile		
		355					360					365					
Arg	Phe	Tyr	Met	Arg	Lys	Ile	Ala	Asp	Asn	Met	Pro	Gln	Ser	Asp	Ala		
	370					375					380						
Asp	Lys	Leu	Val	Leu	Phe	Asn	Leu	Met	Pro	Trp	Pro	Arg	Glu	Glu	Val		
385					390					395					400		
Ile	Asn	Thr	Thr	Val	Arg	Leu	Arg	Ala	Ser	Gln	Phe	Asn	Leu	Arg	Asp		
				405				410							415		
Asp	Arg	Gly	Gln	Pro	Val	Pro	Tyr	Phe	Ile	Arg	His	Ala	Arg	Glu	Ile		
		420						425				430					
Asp	Pro	Gly	Leu	Ile	Asp	Arg	Gln	Ile	Val	His	Tyr	Gly	Asn	Tyr	Asp		
		435					440					445					
Pro	Phe	Met	Glu	Phe	Asp	Ile	Gln	Ile	Asn	Gln	Ile	Val	Pro	Ser	Met		
	450					455					460						
Gly	Tyr	Arg	Thr	Leu	Tyr	Ile	Glu	Ala	Asn	Gln	Pro	Gly	Asn	Val	Ile		
465					470					475					480		
Ala	Ala	Lys	Ser	Asp	Ala	Glu	Gly	Ile	Leu	Glu	Asn	Ala	Phe	Trp	Gln		
				485				490						495			
Ile	Ala	Leu	Asn	Glu	Asp	Gly	Ser	Leu	Gln	Leu	Val	Asp	Lys	Asp	Ser		
		500						505					510				
Gly	Val	Arg	Tyr	Asp	Arg	Val	Leu	Gln	Ile	Glu	Glu	Ser	Ser	Asp	Asp		
		515					520					525					
Gly	Asp	Glu	Tyr	Asp	Tyr	Ser	Pro	Ala	Lys	Glu	Glu	Trp	Val	Ile	Thr		
	530					535					540						
Ala	Ala	Asn	Ala	Lys	Pro	Gln	Cys	Asp	Ile	Ile	His	Glu	Ala	Trp	Gln		
545					550					555					560		
Ser	Arg	Ala	Val	Ile	Arg	Tyr	Asp	Met	Ala	Val	Pro	Leu	Asn	Leu	Ser		
				565				570						575			
Glu	Arg	Ser	Ala	Arg	Gln	Ser	Thr	Gly	Arg	Val	Gly	Val	Val	Leu	Val		
			580					585					590				
Val	Thr	Leu	Ser	His	Asn	Ser	Arg	Arg	Ile	Asp	Val	Asp	Ile	Asn	Leu		
	595					600						605					
Asp	Asn	Gln	Ala	Asp	Asp	His	Arg	Leu	Arg	Val	Leu	Val	Pro	Thr	Pro		
	610					615					620						
Phe	Asn	Thr	Asp	Ser	Val	Leu	Ala	Asp	Thr	Gln	Phe	Gly	Ser	Leu	Thr		
625					630					635				640			
Arg	Pro	Val	Asn	Asp	Ser	Ala	Met	Asn	Asn	Trp	Gln	Gln	Glu	Gly	Trp		
				645					650					655			
Lys	Glu	Ala	Pro	Val	Pro	Val	Trp	Asn	Met	Leu	Asn	Tyr	Val	Ala	Leu		
			660					665					670				
Gln	Glu	Gly	Arg	Asn	Gly	Met	Ala	Val	Phe	Ser	Glu	Gly	Leu	Arg	Glu		
		675					680					685					
Phe	Glu	Val	Ile	Gly	Glu	Glu	Lys	Lys	Thr	Phe	Ala	Ile	Thr	Leu	Leu		
	690					695				700							
Arg	Gly	Val	Gly	Leu	Leu	Gly	Lys	Glu	Asp	Leu	Leu	Leu	Arg	Pro	Gly		
705					710				715					720			
Arg	Pro	Ser	Gly	Ile	Lys	Met	Pro	Val	Pro	Asp	Ser	Gln	Leu	Arg	Gly		
				725				730					735				
Leu	Leu	Ser	Cys	Arg	Leu	Ser	Leu	Leu	Ser	Tyr	Thr	Gly	Thr	Pro	Thr		
		740						745					750				
Ala	Ala	Gly	Val	Ala	Gln	Gln	Ala	Arg	Ala	Trp	Leu	Thr	Pro	Val	Gln		
		755					760					765					
Cys	Tyr	Asn	Lys	Ile	Pro	Trp	Asp	Val	Met	Lys	Leu	Asn	Lys	Ala	Gly		
	770					775					780						

Phe	Asn	Val	Pro	Glu	Ser	Tyr	Ser	Leu	Leu	Lys	Met	Pro	Pro	Val	Gly
785					790					795					800
Cys	Leu	Ile	Ser	Ala	Leu	Lys	Lys	Ala	Glu	Asp	Arg	Gln	Glu	Val	Ile
				805					810					815	
Leu	Arg	Leu	Phe	Asn	Pro	Ala	Glu	Ser	Ala	Thr	Cys	Asp	Ala	Thr	Val
			820				825						830		
Ala	Phe	Ser	Arg	Glu	Val	Ile	Ser	Cys	Ser	Glu	Thr	Met	Met	Asp	Glu
		835					840					845			
His	Ile	Thr	Thr	Glu	Glu	Asn	Gln	Gly	Ser	Asn	Leu	Ser	Gly	Pro	Phe
	850					855					860				
Leu	Pro	Gly	Gln	Ser	Arg	Thr	Phe	Ser	Tyr	Arg	Leu	Ala			
865					870					875					

<210> 354
 <211> 523
 <212> PRT
 <213> E. Coli

<400> 354

Met	Met	Leu	Asp	Ile	Val	Glu	Leu	Ser	Arg	Leu	Gln	Phe	Ala	Leu	Thr
1				5					10					15	
Ala	Met	Tyr	His	Phe	Leu	Phe	Val	Pro	Leu	Thr	Leu	Gly	Met	Ala	Phe
			20					25					30		
Leu	Leu	Ala	Ile	Met	Glu	Thr	Val	Tyr	Val	Leu	Ser	Gly	Lys	Gln	Ile
		35					40					45			
Tyr	Lys	Asp	Met	Thr	Lys	Phe	Trp	Gly	Lys	Leu	Phe	Gly	Ile	Asn	Phe
	50					55					60				
Ala	Leu	Gly	Val	Ala	Thr	Gly	Leu	Thr	Met	Glu	Phe	Gln	Phe	Gly	Thr
65					70					75					80
Asn	Trp	Ser	Tyr	Tyr	Ser	His	Tyr	Val	Gly	Asp	Ile	Phe	Gly	Ala	Pro
				85					90					95	
Leu	Ala	Ile	Glu	Gly	Leu	Met	Ala	Phe	Phe	Leu	Glu	Ser	Thr	Phe	Val
			100				105						110		
Gly	Leu	Phe	Phe	Phe	Gly	Trp	Asp	Arg	Leu	Gly	Lys	Val	Gln	His	Met
		115					120					125			
Cys	Val	Thr	Trp	Leu	Val	Ala	Leu	Gly	Ser	Asn	Leu	Ser	Ala	Leu	Trp
	130					135					140				
Ile	Leu	Val	Ala	Asn	Gly	Trp	Met	Gln	Asn	Pro	Ile	Ala	Ser	Asp	Phe
145					150					155					160
Asn	Phe	Glu	Thr	Met	Arg	Met	Glu	Met	Val	Ser	Phe	Ser	Glu	Leu	Val
				165					170					175	
Leu	Asn	Pro	Val	Ala	Gln	Val	Lys	Phe	Val	His	Thr	Val	Ala	Ser	Gly
			180					185					190		
Tyr	Val	Thr	Gly	Ala	Met	Phe	Ile	Leu	Gly	Ile	Ser	Ala	Trp	Tyr	Met
		195					200					205			
Leu	Lys	Gly	Arg	Asp	Phe	Ala	Phe	Ala	Lys	Arg	Ser	Phe	Ala	Ile	Ala
	210					215					220				
Ala	Ser	Phe	Gly	Met	Ala	Ala	Val	Leu	Ser	Val	Ile	Val	Leu	Gly	Asp
225					230					235					240
Glu	Ser	Gly	Tyr	Glu	Met	Gly	Asp	Val	Gln	Lys	Thr	Lys	Leu	Ala	Ala
				245					250					255	
Ile	Glu	Ala	Glu	Trp	Glu	Thr	Gln	Pro	Ala	Pro	Ala	Ala	Phe	Thr	Leu
			260					265					270		
Phe	Gly	Ile	Pro	Asp	Gln	Glu	Glu	Glu	Thr	Asn	Lys	Phe	Ala	Ile	Gln
	275						280					285			
Ile	Pro	Tyr	Ala	Leu	Gly	Ile	Ile	Ala	Thr	Arg	Ser	Val	Asp	Thr	Pro

290		295		300
Val Ile Gly Leu Lys	Glu Leu Met Val Gln His	Glu Glu Arg Ile Arg		
305	310	315	320	
Asn Gly Met Lys Ala	Tyr Ser Leu Leu Glu Gln Leu Arg Ser Gly Ser			
	325	330	335	
Thr Asp Gln Ala Val Arg Asp Gln Phe Asn Ser Met Lys Lys Asp Leu				
	340	345	350	
Gly Tyr Gly Leu Leu Leu Lys Arg Tyr Thr Pro Asn Val Ala Asp Ala				
	355	360	365	
Thr Glu Ala Gln Ile Gln Gln Ala Thr Lys Asp Ser Ile Pro Arg Val				
	370	375	380	
Ala Pro Leu Tyr Phe Ala Phe Arg Ile Met Val Ala Cys Gly Phe Leu				
385	390	395	400	
Leu Leu Ala Ile Ile Ala Leu Ser Phe Trp Ser Val Ile Arg Asn Arg				
	405	410	415	
Ile Gly Glu Lys Lys Trp Leu Leu Arg Ala Ala Leu Tyr Gly Ile Pro				
	420	425	430	
Leu Pro Trp Ile Ala Val Glu Ala Gly Trp Phe Val Ala Glu Tyr Gly				
	435	440	445	
Arg Gln Pro Trp Ala Ile Gly Glu Val Leu Pro Thr Ala Val Ala Asn				
	450	455	460	
Ser Ser Leu Thr Ala Gly Asp Leu Ile Phe Ser Met Val Leu Ile Cys				
465	470	475	480	
Gly Leu Tyr Thr Leu Phe Leu Val Ala Glu Leu Phe Leu Met Phe Lys				
	485	490	495	
Phe Ala Arg Leu Gly Pro Ser Ser Leu Lys Thr Gly Arg Tyr His Phe				
	500	505	510	
Glu Gln Ser Ser Thr Thr Thr Gln Pro Ala Arg				
	515	520		

<210> 355

<211> 379

<212> PRT

<213> E. Coli

<400> 355

Met Ile Asp Tyr Glu Val Leu Arg Phe Ile Trp Trp Leu Leu Val Gly	
1	5
Val Leu Leu Ile Gly Phe Ala Val Thr Asp Gly Phe Asp Met Gly Val	
	20
Gly Met Leu Thr Arg Phe Leu Gly Arg Asn Asp Thr Glu Arg Arg Ile	
	35
Met Ile Asn Ser Ile Ala Pro His Trp Asp Gly Asn Gln Val Trp Leu	
	50
Ile Thr Ala Gly Gly Ala Leu Phe Ala Ala Trp Pro Met Val Tyr Ala	
65	70
Ala Ala Phe Ser Gly Phe Tyr Val Ala Met Ile Leu Val Leu Ala Ser	
	85
Leu Phe Phe Arg Pro Val Gly Phe Asp Tyr Arg Ser Lys Ile Glu Glu	
	100
Thr Arg Trp Arg Asn Met Trp Asp Trp Gly Ile Phe Ile Gly Ser Phe	
	115
Val Pro Pro Leu Val Ile Gly Val Ala Phe Gly Asn Leu Leu Gln Gly	
	130
Val Pro Phe Asn Val Asp Glu Tyr Leu Arg Leu Tyr Tyr Thr Gly Asn	
145	150
	155
	160

Phe Phe Gln Leu Leu Asn Pro Phe Gly Leu Leu Ala Gly Val Val Ser
 165 170 175
 Val Gly Met Ile Ile Thr Gln Gly Ala Thr Tyr Leu Gln Met Arg Thr
 180 185 190
 Val Gly Glu Leu His Leu Arg Thr Arg Ala Thr Ala Gln Val Ala Ala
 195 200 205
 Leu Val Thr Leu Val Cys Phe Ala Leu Ala Gly Val Trp Val Met Tyr
 210 215 220
 Gly Ile Asp Gly Tyr Val Val Lys Ser Thr Met Asp His Tyr Ala Ala
 225 230 235 240
 Ser Asn Pro Leu Asn Lys Glu Val Val Arg Glu Ala Gly Ala Trp Leu
 245 250 255
 Val Asn Phe Asn Asn Thr Pro Ile Leu Trp Ala Ile Pro Ala Leu Gly
 260 265 270
 Val Val Leu Pro Leu Leu Thr Ile Leu Thr Ala Arg Met Asp Lys Ala
 275 280 285
 Ala Trp Ala Phe Val Phe Ser Ser Leu Thr Leu Ala Cys Ile Ile Leu
 290 295 300
 Thr Ala Gly Ile Ala Met Phe Pro Phe Val Met Pro Ser Ser Thr Met
 305 310 315 320
 Met Asn Ala Ser Leu Thr Met Trp Asp Ala Thr Ser Ser Gln Leu Thr
 325 330 335
 Leu Asn Val Met Thr Trp Val Ala Val Val Leu Val Pro Ile Ile Leu
 340 345 350
 Leu Tyr Thr Ala Trp Cys Tyr Trp Lys Met Phe Gly Arg Ile Thr Lys
 355 360 365
 Glu Asp Ile Glu Arg Asn Thr His Ser Leu Tyr
 370 375

<210> 356

<211> 456

<212> PRT

<213> E. Coli

<400> 356

Met Glu Leu Ser Ser Leu Thr Ala Val Ser Pro Val Asp Gly Arg Tyr
 1 5 10 15
 Gly Asp Lys Val Ser Ala Leu Arg Gly Ile Phe Ser Glu Tyr Gly Leu
 20 25 30
 Leu Lys Phe Arg Val Gln Val Glu Val Arg Trp Leu Gln Lys Leu Ala
 35 40 45
 Ala His Ala Ala Ile Lys Glu Val Pro Ala Phe Ala Ala Asp Ala Ile
 50 55 60
 Gly Tyr Leu Asp Ala Ile Val Ala Ser Phe Ser Glu Glu Asp Ala Ala
 65 70 75 80
 Arg Ile Lys Thr Ile Glu Arg Thr Thr Asn His Asp Val Lys Ala Val
 85 90 95
 Glu Tyr Phe Leu Lys Glu Lys Val Ala Glu Ile Pro Glu Leu His Ala
 100 105 110
 Val Ser Glu Phe Ile His Phe Ala Cys Thr Ser Glu Asp Ile Asn Asn
 115 120 125
 Leu Ser His Ala Leu Met Leu Lys Thr Ala Arg Asp Glu Val Ile Leu
 130 135 140
 Pro Tyr Trp Arg Gln Leu Ile Asp Gly Ile Lys Asp Leu Ala Val Gln
 145 150 155 160
 Tyr Arg Asp Ile Pro Leu Leu Ser Arg Thr His Gly Gln Pro Ala Thr

Pro	Ser	Thr	Ile	Gly	Lys	Glu	Met	Ala	Asn	Val	Ala	Tyr	Arg	Met	Glu
			180					185						190	
Arg	Gln	Tyr	Arg	Gln	Leu	Asn	Gln	Val	Glu	Ile	Leu	Gly	Lys	Ile	Asn
		195					200					205			
Gly	Ala	Val	Gly	Asn	Tyr	Asn	Ala	His	Ile	Ala	Ala	Tyr	Pro	Glu	Val
	210					215					220				
Asp	Trp	His	Gln	Phe	Ser	Glu	Glu	Phe	Val	Thr	Ser	Leu	Gly	Ile	Gln
225					230					235					240
Trp	Asn	Pro	Tyr	Thr	Thr	Gln	Ile	Glu	Pro	His	Asp	Tyr	Ile	Ala	Glu
				245					250					255	
Leu	Phe	Asp	Cys	Val	Ala	Arg	Phe	Asn	Thr	Ile	Leu	Ile	Asp	Phe	Asp
		260						265					270		
Arg	Asp	Val	Trp	Gly	Tyr	Ile	Ala	Leu	Asn	His	Phe	Lys	Gln	Lys	Thr
	275						280					285			
Ile	Ala	Gly	Glu	Ile	Gly	Ser	Ser	Thr	Met	Pro	His	Lys	Val	Asn	Pro
	290					295				300					
Ile	Asp	Phe	Glu	Asn	Ser	Glu	Gly	Asn	Leu	Gly	Leu	Ser	Asn	Ala	Val
305					310					315					320
Leu	Gln	His	Leu	Ala	Ser	Lys	Leu	Pro	Val	Ser	Arg	Trp	Gln	Arg	Asp
				325					330					335	
Leu	Thr	Asp	Ser	Thr	Val	Leu	Arg	Asn	Leu	Gly	Val	Gly	Ile	Gly	Tyr
		340						345					350		
Ala	Leu	Ile	Ala	Tyr	Gln	Ser	Thr	Leu	Lys	Gly	Val	Ser	Lys	Leu	Glu
	355						360					365			
Val	Asn	Arg	Asp	His	Leu	Leu	Asp	Glu	Leu	Asp	His	Asn	Trp	Glu	Val
	370					375					380				
Leu	Ala	Glu	Pro	Ile	Gln	Thr	Val	Met	Arg	Arg	Tyr	Gly	Ile	Glu	Lys
385					390					395					400
Pro	Tyr	Glu	Lys	Leu	Lys	Glu	Leu	Thr	Arg	Gly	Lys	Arg	Val	Asp	Ala
				405					410					415	
Glu	Gly	Met	Lys	Gln	Phe	Ile	Asp	Gly	Leu	Ala	Leu	Pro	Glu	Glu	Glu
			420					425					430		
Lys	Ala	Arg	Leu	Lys	Ala	Met	Thr	Pro	Ala	Asn	Tyr	Ile	Gly	Arg	Ala
	435					440						445			
Ile	Thr	Met	Val	Asp	Glu	Leu	Lys								
	450					455									

<210> 357
 <211> 61
 <212> PRT
 <213> E. Coli

<400> 357
 Met Leu Ile Leu Thr Arg Arg Val Gly Glu Thr Leu Met Ile Gly Asp
 1 5 10 15
 Glu Val Thr Val Thr Val Leu Gly Val Lys Gly Asn Gln Val Arg Ile
 20 25 30
 Gly Val Asn Ala Pro Lys Glu Val Ser Val His Arg Glu Glu Ile Tyr
 35 40 45
 Gln Arg Ile Gln Ala Glu Lys Ser Gln Gln Ser Ser Tyr
 50 55 60

<210> 358
 <211> 93

<212> RNA
<213> E. Coli

<400> 358
ggugaggugg ccgagaggcu gaaggcgcuc ccugcuaag ggaguaugcg gucaaaagcu 60
gcauccgggg uucgaauccc cgccucaccg cca 93

<210> 359
<211> 200
<212> PRT
<213> E. Coli

<400> 359
Met Lys Asn Lys Ala Asp Asn Lys Lys Arg Asn Phe Leu Thr His Ser
1 5 10 15
Glu Ile Glu Ser Leu Leu Lys Ala Ala Asn Thr Gly Pro His Ala Ala
20 25 30
Arg Asn Tyr Cys Leu Thr Leu Leu Cys Phe Ile His Gly Phe Arg Ala
35 40 45
Ser Glu Ile Cys Arg Leu Arg Ile Ser Asp Ile Asp Leu Lys Ala Lys
50 55 60
Cys Ile Tyr Ile His Arg Leu Lys Lys Gly Phe Ser Thr Thr His Pro
65 70 75 80
Leu Leu Asn Lys Glu Val Gln Ala Leu Lys Asn Trp Leu Ser Ile Arg
85 90 95
Thr Ser Tyr Pro His Ala`Glu Ser Glu Trp Val Phe Leu Ser Arg Lys
100 105 110
Gly Asn Pro Leu Ser Arg Gln Gln Phe Tyr His Ile Ile Ser Thr Ser
115 120 125
Gly Gly Asn Ala Gly Leu Ser Leu Glu Ile His Pro His Met Leu Arg
130 135 140
His Ser Cys Gly Phe Ala Leu Ala Asn Met Gly Ile Asp Thr Arg Leu
145 150 155 160
Ile Gln Asp Tyr Leu Gly His Arg Asn Ile Arg His Thr Val Trp Tyr
165 170 175
Thr Ala Ser Asn Ala Gly Arg Phe Tyr Gly Ile Trp Asp Arg Ala Arg
180 185 190
Gly Arg Gln Arg His Ala Val Leu
195 200

<210> 360
<211> 198
<212> PRT
<213> E. Coli

<400> 360
Met Ser Lys Arg Arg Tyr Leu Thr Gly Lys Glu Val Gln Ala Met Met
1 5 10 15
Gln Ala Val Cys Tyr Gly Ala Thr Gly Ala Arg Asp Tyr Cys Leu Ile
20 25 30
Leu Leu Ala Tyr Arg His Gly Met Arg Ile Ser Glu Leu Leu Asp Leu
35 40 45
His Tyr Gln Asp Leu Asp Leu Asn Glu Gly Arg Ile Asn Ile Arg Arg
50 55 60
Leu Lys Asn Gly Phe Ser Thr Val His Pro Leu Arg Phe Asp Glu Arg

65					70					75				80	
Glu	Ala	Val	Glu	Arg	Trp	Thr	Gln	Glu	Arg	Ala	Asn	Trp	Lys	Gly	Ala
			85						90					95	
Asp	Arg	Thr	Asp	Ala	Ile	Phe	Ile	Ser	Arg	Arg	Gly	Ser	Arg	Leu	Ser
			100					105					110		
Arg	Gln	Gln	Ala	Tyr	Arg	Ile	Ile	Arg	Asp	Ala	Gly	Ile	Glu	Ala	Gly
		115					120					125			
Thr	Val	Thr	Gln	Thr	His	Pro	His	Met	Leu	Arg	His	Ala	Cys	Gly	Tyr
		130				135					140				
Glu	Leu	Ala	Glu	Arg	Gly	Ala	Asp	Thr	Arg	Leu	Ile	Gln	Asp	Tyr	Leu
145					150					155					160
Gly	His	Arg	Asn	Ile	Arg	His	Thr	Val	Arg	Tyr	Thr	Ala	Ser	Asn	Ala
			165						170					175	
Ala	Arg	Phe	Ala	Gly	Leu	Trp	Glu	Arg	Asn	Asn	Leu	Ile	Asn	Glu	Lys
			180					185					190		
Leu	Lys	Arg	Glu	Glu	Val										
			195												

<210> 361
 <211> 182
 <212> PRT
 <213> E. Coli

Met	Lys	Ile	Lys	Thr	Leu	Ala	Ile	Val	Val	Leu	Ser	Ala	Leu	Ser	Leu
1				5					10					15	
Ser	Ser	Thr	Ala	Ala	Leu	Ala	Ala	Ala	Thr	Thr	Val	Asn	Gly	Gly	Thr
			20					25					30		
Val	His	Phe	Lys	Gly	Glu	Val	Val	Asn	Ala	Ala	Cys	Ala	Val	Asp	Ala
		35					40					45			
Gly	Ser	Val	Asp	Gln	Thr	Val	Gln	Leu	Gly	Gln	Val	Arg	Thr	Ala	Ser
		50				55					60				
Leu	Ala	Gln	Glu	Gly	Ala	Thr	Ser	Ser	Ala	Val	Gly	Phe	Asn	Ile	Gln
65					70					75					80
Leu	Asn	Asp	Cys	Asp	Thr	Asn	Val	Ala	Ser	Lys	Ala	Ala	Val	Ala	Phe
			85						90					95	
Leu	Gly	Thr	Ala	Ile	Asp	Ala	Gly	His	Thr	Asn	Val	Leu	Ala	Leu	Gln
			100					105					110		
Ser	Ser	Ala	Ala	Gly	Ser	Ala	Thr	Asn	Val	Gly	Val	Gln	Ile	Leu	Asp
			115				120					125			
Arg	Thr	Gly	Ala	Ala	Leu	Thr	Leu	Asp	Gly	Ala	Thr	Phe	Ser	Ser	Glu
		130				135					140				
Thr	Thr	Leu	Asn	Asn	Gly	Thr	Asn	Thr	Ile	Pro	Phe	Gln	Ala	Arg	Tyr
145					150					155					160
Phe	Ala	Thr	Gly	Ala	Ala	Thr	Pro	Gly	Ala	Ala	Asn	Ala	Asp	Ala	Thr
			165						170					175	
Phe	Lys	Val	Gln	Tyr	Gln										
			180												

<210> 362
 <211> 215
 <212> PRT
 <213> E. Coli

<400> 362

Met	Leu	Leu	Met	Arg	Met	Arg	Pro	Ser	Arg	Phe	Ser	Ile	Asn	Asn	Leu
1				5					10					15	
Pro	Arg	Phe	Arg	Asp	Val	Ile	Thr	Gly	Arg	Asp	Ala	His	Pro	Cys	Ala
			20					25					30		
Ile	Lys	Ile	Thr	Met	Lys	Arg	Lys	Arg	Leu	Phe	Leu	Leu	Ala	Ser	Leu
		35					40					45			
Leu	Pro	Met	Phe	Ala	Leu	Ala	Gly	Asn	Lys	Trp	Asn	Thr	Thr	Leu	Pro
	50					55					60				
Gly	Gly	Asn	Met	Gln	Phe	Gln	Gly	Val	Ile	Ile	Ala	Glu	Thr	Cys	Arg
65				70						75					80
Ile	Glu	Ala	Gly	Asp	Lys	Gln	Met	Thr	Val	Asn	Met	Gly	Gln	Ile	Ser
				85					90					95	
Ser	Asn	Arg	Phe	His	Ala	Val	Gly	Glu	Asp	Ser	Ala	Pro	Val	Pro	Phe
			100					105					110		
Val	Ile	His	Leu	Arg	Glu	Cys	Ser	Thr	Val	Val	Ser	Glu	Arg	Val	Gly
		115					120					125			
Val	Ala	Phe	His	Gly	Val	Ala	Asp	Gly	Lys	Asn	Pro	Asp	Val	Leu	Ser
	130					135					140				
Val	Gly	Glu	Gly	Pro	Gly	Ile	Ala	Thr	Asn	Ile	Gly	Val	Ala	Leu	Phe
145					150					155					160
Asp	Asp	Glu	Gly	Asn	Leu	Val	Pro	Ile	Asn	Arg	Pro	Pro	Ala	Asn	Trp
				165					170					175	
Lys	Arg	Leu	Tyr	Ser	Gly	Ser	Thr	Ser	Leu	His	Phe	Ile	Ala	Lys	Tyr
		180						185					190		
Arg	Ala	Thr	Gly	Arg	Arg	Val	Thr	Gly	Gly	Ile	Ala	Asn	Ala	Gln	Ala
		195					200					205			
Trp	Phe	Ser	Leu	Thr	Tyr	Gln									
	210					215									

<210> 363

<211> 241

<212> PRT

<213> E. Coli

<400> 363

Met	Ser	Asn	Lys	Asn	Val	Asn	Val	Arg	Lys	Ser	Gln	Glu	Ile	Thr	Phe
1				5					10					15	
Cys	Leu	Leu	Ala	Gly	Ile	Leu	Met	Phe	Met	Ala	Met	Met	Val	Ala	Gly
			20					25					30		
Arg	Ala	Glu	Ala	Gly	Val	Ala	Leu	Gly	Ala	Thr	Arg	Val	Ile	Tyr	Pro
		35					40					45			
Ala	Gly	Gln	Lys	Gln	Glu	Gln	Leu	Ala	Val	Thr	Asn	Asn	Asp	Glu	Asn
	50					55					60				
Ser	Thr	Tyr	Leu	Ile	Gln	Ser	Trp	Val	Glu	Asn	Ala	Asp	Gly	Val	Lys
65				70						75					80
Asp	Gly	Arg	Phe	Ile	Val	Thr	Pro	Pro	Leu	Phe	Ala	Met	Lys	Gly	Lys
			85						90					95	
Lys	Glu	Asn	Thr	Leu	Arg	Ile	Leu	Asp	Ala	Thr	Asn	Asn	Gln	Leu	Pro
			100					105					110		
Gln	Asp	Arg	Glu	Ser	Leu	Phe	Trp	Met	Asn	Val	Lys	Ala	Ile	Pro	Ser
	115						120					125			
Met	Asp	Lys	Ser	Lys	Leu	Thr	Glu	Asn	Thr	Leu	Gln	Leu	Ala	Ile	Ile
	130					135					140				
Ser	Arg	Ile	Lys	Leu	Tyr	Tyr	Arg	Pro	Ala	Lys	Leu	Ala	Leu	Pro	Pro

145		150		155		160
Asp	Gln	Ala	Ala	Glu	Lys	Leu
		165		170		175
Thr	Leu	Ile	Asn	Pro	Thr	Pro
		180		185		190
Ala	Gly	Thr	Arg	Val	Leu	Glu
		195		200		205
Ser	Thr	Val	Lys	Leu	Pro	Ser
		210		215		220
Thr	Ile	Asn	Asp	Tyr	Gly	Ala
225				230		235
Glu						240

<210> 364
 <211> 878
 <212> PRT
 <213> E. Coli

<400> 364

Met	Ser	Tyr	Leu	Asn	Leu	Arg	Leu	Tyr	Gln	Arg	Asn	Thr	Gln	Cys	Leu
1				5					10					15	
His	Ile	Arg	Lys	His	Arg	Leu	Ala	Gly	Phe	Phe	Val	Arg	Leu	Val	Val
			20					25					30		
Ala	Cys	Ala	Phe	Ala	Ala	Gln	Ala	Pro	Leu	Ser	Ser	Ala	Asp	Leu	Tyr
			35				40					45			
Phe	Asn	Pro	Arg	Phe	Leu	Ala	Asp	Asp	Pro	Gln	Ala	Val	Ala	Asp	Leu
			50			55					60				
Ser	Arg	Phe	Glu	Asn	Gly	Gln	Glu	Leu	Pro	Pro	Gly	Thr	Tyr	Arg	Val
65					70					75					80
Asp	Ile	Tyr	Leu	Asn	Asn	Gly	Tyr	Met	Ala	Thr	Arg	Asp	Val	Thr	Phe
				85					90					95	
Asn	Thr	Gly	Asp	Ser	Glu	Gln	Gly	Ile	Val	Pro	Cys	Leu	Thr	Arg	Ala
			100					105					110		
Gln	Leu	Ala	Ser	Met	Gly	Leu	Asn	Thr	Ala	Ser	Val	Ala	Gly	Met	Asn
			115				120					125			
Leu	Leu	Ala	Asp	Asp	Ala	Cys	Val	Pro	Leu	Thr	Thr	Met	Val	Gln	Asp
			130			135						140			
Ala	Thr	Ala	His	Leu	Asp	Val	Gly	Gln	Gln	Arg	Leu	Asn	Leu	Thr	Ile
145					150					155					160
Pro	Gln	Ala	Phe	Met	Ser	Asn	Arg	Ala	Arg	Gly	Tyr	Ile	Pro	Pro	Glu
				165					170						175
Leu	Trp	Asp	Pro	Gly	Ile	Asn	Ala	Gly	Leu	Leu	Asn	Tyr	Asn	Phe	Ser
			180					185					190		
Gly	Asn	Ser	Val	Gln	Asn	Arg	Ile	Gly	Gly	Asn	Ser	His	Tyr	Ala	Tyr
			195				200					205			
Leu	Asn	Leu	Gln	Ser	Gly	Leu	Asn	Ile	Gly	Ala	Trp	Arg	Leu	Arg	Asp
			210				215				220				
Asn	Thr	Thr	Trp	Ser	Tyr	Asn	Ser	Ser	Asp	Arg	Ser	Ser	Gly	Ser	Lys
225					230					235					240
Asn	Lys	Trp	Gln	His	Ile	Asn	Thr	Trp	Leu	Glu	Arg	Asp	Ile	Ile	Pro
				245					250					255	
Leu	Arg	Ser	Arg	Leu	Thr	Leu	Gly	Asp	Gly	Tyr	Thr	Gln	Gly	Asp	Ile
			260				265						270		
Phe	Asp	Gly	Ile	Asn	Phe	Arg	Gly	Ala	Gln	Leu	Ala	Ser	Asp	Asp	Asn
			275				280					285			

Met	Leu	Pro	Asp	Ser	Gln	Arg	Gly	Phe	Ala	Pro	Val	Ile	His	Gly	Ile	290	295	300
Ala	Arg	Gly	Thr	Ala	Gln	Val	Thr	Ile	Lys	Gln	Asn	Gly	Tyr	Asp	Ile	305	310	315
Tyr	Asn	Ser	Thr	Val	Pro	Pro	Gly	Pro	Phe	Thr	Ile	Asn	Asp	Ile	Tyr	325	330	335
Ala	Ala	Gly	Asn	Ser	Gly	Asp	Leu	Gln	Val	Thr	Ile	Lys	Glu	Ala	Asp	340	345	350
Gly	Ser	Thr	Gln	Ile	Phe	Thr	Val	Pro	Tyr	Ser	Ser	Val	Pro	Leu	Leu	355	360	365
Gln	Arg	Glu	Gly	His	Thr	Arg	Tyr	Ser	Ile	Thr	Ala	Gly	Glu	Tyr	Arg	370	375	380
Ser	Gly	Asn	Ala	Gln	Gln	Glu	Lys	Thr	Arg	Phe	Phe	Gln	Ser	Thr	Leu	385	390	395
Leu	His	Gly	Leu	Pro	Ala	Gly	Trp	Thr	Ile	Tyr	Gly	Gly	Thr	Gln	Leu	405	410	415
Ala	Asp	Arg	Tyr	Arg	Ala	Phe	Asn	Phe	Gly	Ile	Gly	Lys	Asn	Met	Gly	420	425	430
Ala	Leu	Gly	Ala	Leu	Ser	Val	Asp	Met	Thr	Gln	Ala	Asn	Ser	Thr	Leu	435	440	445
Pro	Asp	Asp	Ser	Gln	His	Asp	Gly	Gln	Ser	Val	Arg	Phe	Leu	Tyr	Asn	450	455	460
Lys	Ser	Leu	Asn	Glu	Ser	Gly	Thr	Asn	Ile	Gln	Leu	Val	Gly	Tyr	Arg	465	470	475
Tyr	Ser	Thr	Ser	Gly	Tyr	Phe	Asn	Phe	Ala	Asp	Thr	Thr	Tyr	Ser	Arg	485	490	495
Met	Asn	Gly	Tyr	Asn	Ile	Glu	Thr	Gln	Asp	Gly	Val	Ile	Gln	Val	Lys	500	505	510
Pro	Lys	Phe	Thr	Asp	Tyr	Tyr	Asn	Leu	Ala	Tyr	Asn	Lys	Arg	Gly	Lys	515	520	525
Leu	Gln	Leu	Thr	Val	Thr	Gln	Gln	Leu	Gly	Arg	Thr	Ser	Thr	Leu	Tyr	530	535	540
Leu	Ser	Gly	Ser	His	Gln	Thr	Tyr	Trp	Gly	Thr	Ser	Asn	Val	Asp	Glu	545	550	555
Gln	Phe	Gln	Ala	Gly	Leu	Asn	Thr	Ala	Phe	Glu	Asp	Ile	Asn	Trp	Thr	565	570	575
Leu	Ser	Tyr	Ser	Leu	Thr	Lys	Asn	Ala	Trp	Gln	Lys	Gly	Arg	Asp	Gln	580	585	590
Met	Leu	Ala	Leu	Asn	Val	Asn	Ile	Pro	Phe	Ser	His	Trp	Leu	Arg	Ser	595	600	605
Asp	Ser	Lys	Ser	Gln	Trp	Arg	His	Ala	Ser	Ala	Ser	Tyr	Ser	Met	Ser	610	615	620
His	Asp	Leu	Asn	Gly	Arg	Met	Thr	Asn	Leu	Ala	Gly	Val	Tyr	Gly	Thr	625	630	635
Leu	Leu	Glu	Asp	Asn	Asn	Leu	Ser	Tyr	Ser	Val	Gln	Thr	Gly	Tyr	Ala	645	650	655
Gly	Gly	Gly	Asp	Gly	Asn	Ser	Gly	Ser	Thr	Gly	Tyr	Ala	Thr	Leu	Asn	660	665	670
Tyr	Arg	Gly	Gly	Tyr	Gly	Asn	Ala	Asn	Ile	Gly	Tyr	Ser	His	Ser	Asp	675	680	685
Asp	Ile	Lys	Gln	Leu	Tyr	Tyr	Gly	Val	Ser	Gly	Gly	Val	Leu	Ala	His	690	695	700
Ala	Asn	Gly	Val	Thr	Leu	Gly	Gln	Pro	Leu	Asn	Asp	Thr	Val	Val	Leu	705	710	715
Val	Lys	Ala	Pro	Gly	Ala	Lys	Asp	Ala	Lys	Val	Glu	Asn	Gln	Thr	Gly	725	730	735
Val	Arg	Thr	Asp	Trp	Arg	Gly	Tyr	Ala	Val	Leu	Pro	Tyr	Ala	Thr	Glu			

			740					745				750			
Tyr	Arg	Glu	Asn	Arg	Val	Ala	Leu	Asp	Thr	Asn	Thr	Leu	Ala	Asp	Asn
		755					760					765			
Val	Asp	Leu	Asp	Asn	Ala	Val	Ala	Asn	Val	Val	Pro	Thr	Arg	Gly	Ala
	770					775					780				
Ile	Val	Arg	Ala	Glu	Phe	Lys	Ala	Arg	Val	Gly	Ile	Lys	Leu	Leu	Met
785					790					795					800
Thr	Leu	Thr	His	Asn	Asn	Lys	Pro	Leu	Pro	Phe	Gly	Ala	Met	Val	Thr
				805					810					815	
Ser	Glu	Ser	Ser	Gln	Ser	Ser	Gly	Ile	Val	Ala	Asp	Asn	Gly	Gln	Val
			820					825					830		
Tyr	Leu	Ser	Gly	Met	Pro	Leu	Ala	Gly	Lys	Val	Gln	Val	Lys	Trp	Gly
	835						840					845			
Glu	Glu	Glu	Asn	Ala	His	Cys	Val	Ala	Asn	Tyr	Gln	Leu	Pro	Pro	Glu
	850					855					860				
Ser	Gln	Gln	Gln	Leu	Leu	Thr	Gln	Leu	Ser	Ala	Glu	Cys	Arg		
865					870					875					

<210> 365
 <211> 176
 <212> PRT
 <213> E. Coli

Met	Arg	Asn	Lys	Pro	Phe	Tyr	Leu	Leu	Cys	Ala	Phe	Leu	Trp	Leu	Ala
1				5					10					15	
Val	Ser	His	Ala	Leu	Ala	Ala	Asp	Ser	Thr	Ile	Thr	Ile	Arg	Gly	Tyr
			20					25					30		
Val	Arg	Asp	Asn	Gly	Cys	Ser	Val	Ala	Ala	Glu	Ser	Thr	Asn	Phe	Thr
		35					40					45			
Val	Asp	Leu	Met	Glu	Asn	Ala	Ala	Lys	Gln	Phe	Asn	Asn	Ile	Gly	Ala
	50					55					60				
Thr	Thr	Pro	Val	Val	Pro	Phe	Arg	Ile	Leu	Leu	Ser	Pro	Cys	Gly	Asn
65					70					75					80
Ala	Val	Ser	Ala	Val	Lys	Val	Gly	Phe	Thr	Gly	Val	Ala	Asp	Ser	His
			85						90					95	
Asn	Ala	Asn	Leu	Leu	Ala	Leu	Glu	Asn	Thr	Val	Ser	Ala	Ala	Ser	Gly
			100					105					110		
Leu	Gly	Ile	Gln	Leu	Leu	Asn	Glu	Gln	Gln	Asn	Gln	Ile	Pro	Leu	Asn
	115						120					125			
Ala	Pro	Ser	Ser	Ala	Leu	Ser	Trp	Thr	Thr	Leu	Thr	Pro	Gly	Lys	Pro
	130					135					140				
Asn	Thr	Leu	Asn	Phe	Tyr	Ala	Arg	Leu	Met	Ala	Thr	Gln	Val	Pro	Val
145				150						155					160
Thr	Ala	Gly	His	Ile	Asn	Ala	Thr	Ala	Thr	Phe	Thr	Leu	Glu	Tyr	Gln
			165					170						175	

<210> 366
 <211> 167
 <212> PRT
 <213> E. Coli

<400> 366
 Met Lys Trp Cys Lys Arg Gly Tyr Val Leu Ala Ala Ile Leu Ala Leu

1				5					10					15	
Ala	Ser	Ala	Thr	Ile	Gln	Ala	Ala	Asp	Val	Thr	Ile	Thr	Val	Asn	Gly
			20					25					30		
Lys	Val	Val	Ala	Lys	Pro	Cys	Thr	Val	Ser	Thr	Thr	Asn	Ala	Thr	Val
		35					40					45			
Asp	Leu	Gly	Asp	Leu	Tyr	Ser	Phe	Ser	Leu	Met	Ser	Ala	Gly	Ala	Ala
	50					55					60				
Ser	Ala	Trp	His	Asp	Val	Ala	Leu	Glu	Leu	Thr	Asn	Cys	Pro	Val	Gly
65					70					75					80
Thr	Ser	Arg	Val	Thr	Ala	Ser	Phe	Ser	Gly	Ala	Ala	Asp	Ser	Thr	Gly
				85					90					95	
Tyr	Tyr	Lys	Asn	Gln	Gly	Thr	Ala	Gln	Asn	Ile	Gln	Leu	Glu	Leu	Gln
			100					105					110		
Asp	Asp	Ser	Gly	Asn	Thr	Leu	Asn	Thr	Gly	Ala	Thr	Lys	Thr	Val	Gln
		115					120					125			
Val	Asp	Asp	Ser	Ser	Gln	Ser	Ala	His	Phe	Pro	Leu	Gln	Val	Arg	Ala
	130					135					140				
Leu	Thr	Val	Asn	Gly	Gly	Ala	Thr	Gln	Gly	Thr	Ile	Gln	Ala	Val	Ile
145					150					155					160
Ser	Ile	Thr	Tyr	Thr	Tyr	Ser									
				165											

<210> 367

<211> 300

<212> PRT

<213> E. Coli

<400> 367

Met	Lys	Arg	Val	Ile	Thr	Leu	Phe	Ala	Val	Leu	Leu	Met	Gly	Trp	Ser
1				5					10					15	
Val	Asn	Ala	Trp	Ser	Phe	Ala	Cys	Lys	Thr	Ala	Asn	Gly	Thr	Ala	Ile
			20					25					30		
Pro	Ile	Gly	Gly	Gly	Ser	Ala	Asn	Val	Tyr	Val	Asn	Leu	Ala	Pro	Val
		35					40					45			
Val	Asn	Val	Gly	Gln	Asn	Leu	Val	Val	Asp	Leu	Ser	Thr	Gln	Ile	Phe
	50					55					60				
Cys	His	Asn	Asp	Tyr	Pro	Glu	Thr	Ile	Thr	Asp	Tyr	Val	Thr	Leu	Gln
65					70					75					80
Arg	Gly	Ser	Ala	Tyr	Gly	Gly	Val	Leu	Ser	Asn	Phe	Ser	Gly	Thr	Val
				85					90					95	
Lys	Tyr	Ser	Gly	Ser	Ser	Tyr	Pro	Phe	Pro	Thr	Thr	Ser	Glu	Thr	Pro
			100					105					110		
Arg	Val	Val	Tyr	Asn	Ser	Arg	Thr	Asp	Lys	Pro	Trp	Pro	Val	Ala	Leu
		115					120					125			
Tyr	Leu	Thr	Pro	Val	Ser	Ser	Ala	Gly	Gly	Val	Ala	Ile	Lys	Ala	Gly
	130					135					140				
Ser	Leu	Ile	Ala	Val	Leu	Ile	Leu	Arg	Gln	Thr	Asn	Asn	Tyr	Asn	Ser
145					150					155					160
Asp	Asp	Phe	Gln	Phe	Val	Trp	Asn	Ile	Tyr	Ala	Asn	Asn	Asp	Val	Val
				165					170					175	
Val	Pro	Thr	Gly	Gly	Cys	Asp	Val	Ser	Ala	Arg	Asp	Val	Thr	Val	Thr
			180					185					190		
Leu	Pro	Asp	Tyr	Pro	Gly	Ser	Val	Pro	Ile	Pro	Leu	Thr	Val	Tyr	Cys
		195					200					205			
Ala	Lys	Ser	Gln	Asn	Leu	Gly	Tyr	Tyr	Leu	Ser	Gly	Thr	Thr	Ala	Asp

210		215		220
Ala Gly Asn Ser Ile Phe Thr Asn Thr Ala Ser Phe Ser Pro Ala Gln				
225		230		235
Gly Val Gly Val Gln Leu Thr Arg Asn Gly Thr Ile Ile Pro Ala Asn				240
		245		250
Asn Thr Val Ser Leu Gly Ala Val Gly Thr Ser Ala Val Ser Leu Gly				255
		260		265
Leu Thr Ala Asn Tyr Ala Arg Thr Gly Gly Gln Val Thr Ala Gly Asn				270
		275		280
Val Gln Ser Ile Ile Gly Val Thr Phe Val Tyr Gln				285
		290		300

<210> 368
 <211> 521
 <212> PRT
 <213> E. Coli

<400> 368

Met Leu Ser Lys Leu Pro Arg Arg Leu Arg Ser Phe Gln Thr Tyr Cys				
1	5	10	15	
Thr Ile Arg Val His Arg Gly Glu Asp Met Lys Ser Met Asp Lys Leu				
	20	25	30	
Thr Thr Gly Val Ala Tyr Gly Thr Ser Ala Gly Asn Ala Gly Phe Trp				
	35	40	45	
Ala Leu Gln Leu Leu Asp Lys Val Thr Pro Ser Gln Trp Ala Ala Ile				
	50	55	60	
Gly Val Leu Gly Ser Leu Val Phe Gly Leu Leu Thr Tyr Leu Thr Asn				
65	70	75	80	
Leu Tyr Phe Lys Ile Lys Glu Asp Arg Arg Lys Ala Ala Arg Gly Glu				
	85	90	95	
Ser Asn Asp Ser Arg Leu Thr Gly Cys Glu Arg Ser Pro Phe Glu Ser				
	100	105	110	
Tyr Gly Asn Cys Ser Leu Thr Gly Gln Arg Thr Leu Arg Asn Phe Pro				
	115	120	125	
Gly Cys Arg His Gly Pro Cys Arg Ser Cys Ala Gly Val Leu Gly Ser				
	130	135	140	
Ser Gln Lys Glu Arg Pro Ala Ser Leu Pro Gly Ser Ser Arg Lys Ile				
145	150	155	160	
Val Arg Lys Ser Val Leu Ser Ala Ala Ser Val Leu Leu Asp Lys Ser				
	165	170	175	
Cys Gln Ala Arg Ala Ser Ser Ser Ile Ser Met Asn Thr Lys Ile Arg				
	180	185	190	
Tyr Gly Leu Ser Ala Ala Val Leu Ala Leu Ile Gly Ala Gly Ala Ser				
	195	200	205	
Ala Pro Gln Ile Leu Asp Gln Phe Leu Asp Glu Lys Glu Gly Asn His				
	210	215	220	
Thr Met Ala Tyr Arg Asp Gly Ser Gly Ile Trp Thr Ile Cys Arg Gly				
225	230	235	240	
Ala Thr Val Val Asp Gly Lys Thr Val Phe Pro Asn Met Lys Leu Ser				
	245	250	255	
Lys Glu Lys Cys Asp Gln Val Asn Ala Ile Glu Arg Asp Lys Ala Leu				
	260	265	270	
Ala Trp Val Glu Arg Asn Ile Lys Val Pro Leu Thr Glu Pro Gln Lys				
	275	280	285	
Ala Gly Ile Ala Ser Phe Cys Pro Tyr Asn Ile Gly Pro Gly Lys Cys				

290		295		300											
Phe	Pro	Ser	Thr	Phe	Tyr	Lys	Arg	Leu	Asn	Ala	Gly	Asp	Arg	Lys	Gly
305					310					315					320
Ala	Cys	Glu	Ala	Ile	Arg	Trp	Trp	Ile	Lys	Asp	Gly	Gly	Arg	Asp	Cys
				325					330					335	
Arg	Ile	Arg	Ser	Asn	Asn	Cys	Tyr	Gly	Gln	Val	Ile	Arg	Arg	Asp	Gln
			340					345					350		
Glu	Ser	Ala	Leu	Thr	Cys	Trp	Gly	Ile	Glu	Gln	Ile	Arg	Tyr	Ser	Trp
		355					360					365			
Phe	Phe	Ser	Cys	Cys	Gln	Asp	Leu	Ser	Ser	Glu	Met	Ser	Gly	Ala	Thr
370						375					380				
Glu	Asp	Gly	Lys	Lys	Asn	Gly	Arg	Asn	Val	Met	Leu	Pro	His	Tyr	His
385					390					395					400
Lys	Arg	Met	Leu	Asn	Leu	Leu	Leu	Glu	Leu	Asn	Arg	Gly	Glu	Leu	Pro
				405				410						415	
Val	Met	Arg	Leu	Leu	Lys	Met	Arg	Asn	Arg	Asn	Leu	Leu	Lys	Phe	Leu
			420					425					430		
Pro	Gly	Leu	Leu	Ile	Cys	Leu	Ile	Val	Leu	Thr	Ser	Cys	Val	Pro	Lys
		435					440					445			
Gln	Lys	Asn	Met	Pro	Tyr	Ala	Leu	Thr	Gln	Arg	Ser	Ile	Pro	Gln	Ile
450						455					460				
Leu	Pro	Leu	Pro	Ser	Glu	Ala	Lys	Gln	Pro	Lys	Pro	Pro	Lys	Glu	Cys
465					470					475					480
Ser	Pro	Thr	Cys	Ser	Glu	Ile	Leu	Gln	Gln	Lys	Leu	Ser	Phe	Met	Leu
				485				490						495	
Lys	Leu	Leu	Thr	Asn	Ala	Thr	Ser	Gln	Glu	Leu	Val	Asn	Arg	Ser	Met
			500					505					510		
Asn	Leu	Glu	Ile	Lys	Ser	Ile	Lys	Cys							
		515					520								

<210> 369
 <211> 177
 <212> PRT
 <213> E. Coli

<400> 369

Met	Asn	Thr	Lys	Ile	Arg	Tyr	Gly	Leu	Ser	Ala	Ala	Val	Leu	Ala	Leu
1				5					10					15	
Ile	Gly	Ala	Gly	Ala	Ser	Ala	Pro	Gln	Ile	Leu	Asp	Gln	Phe	Leu	Asp
			20					25					30		
Glu	Lys	Glu	Gly	Asn	His	Thr	Met	Ala	Tyr	Arg	Asp	Gly	Ser	Gly	Ile
		35					40					45			
Trp	Thr	Ile	Cys	Arg	Gly	Ala	Thr	Val	Val	Asp	Gly	Lys	Thr	Val	Phe
	50					55					60				
Pro	Asn	Met	Lys	Leu	Ser	Lys	Glu	Lys	Cys	Asp	Gln	Val	Asn	Ala	Ile
65					70					75					80
Glu	Arg	Asp	Lys	Ala	Leu	Ala	Trp	Val	Glu	Arg	Asn	Ile	Lys	Val	Pro
				85				90						95	
Leu	Thr	Glu	Pro	Gln	Lys	Ala	Gly	Ile	Ala	Ser	Phe	Cys	Pro	Tyr	Asn
			100				105						110		
Ile	Gly	Pro	Gly	Lys	Cys	Phe	Pro	Ser	Thr	Phe	Tyr	Lys	Arg	Leu	Asn
	115						120					125			
Ala	Gly	Asp	Arg	Lys	Gly	Ala	Cys	Glu	Ala	Ile	Arg	Trp	Trp	Ile	Lys
130						135					140				
Asp	Gly	Gly	Arg	Asp	Cys	Arg	Ile	Arg	Ser	Asn	Asn	Cys	Tyr	Gly	Gln

145 150 155 160
 Val Ile Arg Arg Asp Gln Glu Ser Ala Leu Thr Cys Trp Gly Ile Glu
 165 170 175
 Gln

<210> 370
 <211> 103
 <212> PRT
 <213> E. Coli

<400> 370
 Met Thr Gln Asp Tyr Glu Leu Val Val Lys Gly Val Arg Asn Phe Glu
 1 5 10 15
 Asn Lys Val Thr Val Thr Val Ala Leu Gln Asp Lys Glu Arg Phe Asp
 20 25 30
 Gly Glu Ile Phe Asp Leu Asp Val Ala Met Asp Arg Val Glu Gly Ala
 35 40 45
 Ala Leu Glu Phe Tyr Glu Ala Ala Arg Arg Ser Val Arg Gln Val
 50 55 60
 Phe Leu Glu Val Ala Glu Lys Leu Ser Glu Lys Val Glu Ser Tyr Leu
 65 70 75 80
 Gln His Gln Tyr Ser Phe Lys Ile Glu Asn Pro Ala Asn Lys His Glu
 85 90 95
 Arg Pro His His Lys Tyr Leu
 100

<210> 371
 <211> 96
 <212> PRT
 <213> E. Coli

<400> 371
 Met Leu Ser Lys Leu Pro Arg Arg Leu Arg Ser Phe Gln Thr Tyr Cys
 1 5 10 15
 Thr Ile Arg Val His Arg Gly Glu Asp Met Lys Ser Met Asp Lys Leu
 20 25 30
 Thr Thr Gly Val Ala Tyr Gly Thr Ser Ala Gly Asn Ala Gly Phe Trp
 35 40 45
 Ala Leu Gln Leu Leu Asp Lys Val Thr Pro Ser Gln Trp Ala Ala Ile
 50 55 60
 Gly Val Leu Gly Ser Leu Val Phe Gly Leu Leu Thr Tyr Leu Thr Asn
 65 70 75 80
 Leu Tyr Phe Lys Ile Lys Glu Asp Arg Arg Lys Ala Ala Arg Gly Glu
 85 90 95

<210> 372
 <211> 71
 <212> PRT
 <213> E. Coli

<400> 372

Met	Ser	Asn	Lys	Met	Thr	Gly	Leu	Val	Lys	Trp	Phe	Asn	Ala	Asp	Lys
1				5					10					15	
Gly	Phe	Gly	Phe	Ile	Ser	Pro	Val	Asp	Gly	Ser	Lys	Asp	Val	Phe	Val
			20					25					30		
His	Phe	Ser	Ala	Ile	Gln	Asn	Asp	Asn	Tyr	Arg	Thr	Leu	Phe	Glu	Gly
		35					40					45			
Gln	Lys	Val	Thr	Phe	Ser	Ile	Glu	Ser	Gly	Ala	Lys	Gly	Pro	Ala	Ala
	50					55					60				
Ala	Asn	Val	Ile	Ile	Thr	Asp									
65					70										

<210> 373
 <211> 338
 <212> PRT
 <213> E. Coli

<400> 373

Met	Phe	Val	Ile	Trp	Ser	His	Arg	Thr	Gly	Phe	Ile	Met	Ser	His	Gln
1				5					10					15	
Leu	Thr	Phe	Ala	Asp	Ser	Glu	Phe	Ser	Ser	Lys	Arg	Arg	Gln	Thr	Arg
			20					25					30		
Lys	Glu	Ile	Phe	Leu	Ser	Arg	Met	Glu	Gln	Ile	Leu	Pro	Trp	Gln	Asn
		35					40					45			
Met	Val	Glu	Val	Ile	Glu	Pro	Phe	Tyr	Pro	Lys	Ala	Gly	Asn	Gly	Arg
	50					55					60				
Arg	Pro	Tyr	Pro	Leu	Glu	Thr	Met	Leu	Arg	Ile	His	Cys	Met	Gln	His
65					70					75					80
Trp	Tyr	Asn	Leu	Ser	Asp	Gly	Ala	Met	Glu	Asp	Ala	Leu	Tyr	Glu	Ile
			85						90					95	
Ala	Ser	Met	Arg	Leu	Phe	Ala	Arg	Leu	Ser	Leu	Asp	Ser	Ala	Leu	Pro
			100					105					110		
Asp	Arg	Thr	Thr	Ile	Met	Asn	Phe	Arg	His	Leu	Leu	Glu	Gln	His	Gln
		115					120					125			
Leu	Ala	Arg	Gln	Leu	Phe	Lys	Thr	Ile	Asn	Arg	Trp	Leu	Ala	Glu	Ala
	130					135					140				
Gly	Val	Met	Met	Thr	Gln	Gly	Thr	Leu	Val	Asp	Ala	Thr	Ile	Ile	Glu
145					150					155					160
Ala	Pro	Ser	Ser	Thr	Lys	Asn	Lys	Glu	Gln	Gln	Arg	Asp	Pro	Glu	Met
				165					170					175	
His	Gln	Thr	Lys	Lys	Gly	Asn	Gln	Trp	His	Phe	Gly	Met	Lys	Ala	His
			180					185					190		
Ile	Gly	Val	Asp	Ala	Lys	Ser	Gly	Leu	Thr	His	Ser	Leu	Val	Thr	Thr
		195					200						205		
Ala	Ala	Asn	Glu	His	Asp	Leu	Asn	Gln	Leu	Gly	Asn	Leu	Leu	His	Gly
	210					215					220				
Glu	Glu	Gln	Phe	Val	Ser	Ala	Asp	Ala	Gly	Tyr	Gln	Gly	Ala	Pro	Gln
225					230					235					240
Arg	Glu	Glu	Leu	Ala	Glu	Val	Asp	Val	Asp	Trp	Leu	Ile	Ala	Glu	Arg
				245					250					255	
Pro	Gly	Lys	Val	Arg	Thr	Leu	Lys	Gln	His	Pro	Arg	Lys	Asn	Lys	Thr
			260					265					270		
Ala	Ile	Asn	Ile	Glu	Tyr	Met	Lys	Ala	Ser	Ile	Arg	Ala	Arg	Val	Glu
		275					280					285			
His	Pro	Phe	Arg	Ile	Ile	Lys	Arg	Gln	Phe	Gly	Phe	Val	Lys	Ala	Arg
	290					295					300				

Tyr Lys Gly Leu Leu Lys Asn Asp Asn Gln Leu Ala Met Leu Phe Thr
 305 310 315 320
 Leu Ala Asn Leu Phe Arg Ala Asp Gln Met Ile Arg Gln Trp Glu Arg
 325 330 335
 Ser His

<210> 374
 <211> 157
 <212> PRT
 <213> E. Coli

<400> 374
 Met Val Tyr Ile Ile Ile Val Ser His Gly His Glu Asp Tyr Ile Lys
 1 5 10 15
 Lys Leu Leu Glu Asn Leu Asn Ala Asp Asp Glu His Tyr Lys Ile Ile
 20 25 30
 Val Arg Asp Asn Lys Asp Ser Leu Leu Leu Lys Gln Ile Cys Gln His
 35 40 45
 Tyr Ala Gly Leu Asp Tyr Ile Ser Gly Gly Val Tyr Gly Phe Gly His
 50 55 60
 Asn Asn Asn Ile Ala Val Ala Tyr Val Lys Glu Lys Tyr Arg Pro Ala
 65 70 75 80
 Asp Asp Asp Tyr Ile Leu Phe Leu Asn Pro Asp Ile Ile Met Lys His
 85 90 95
 Asp Asp Leu Leu Thr Tyr Ile Lys Tyr Val Glu Ser Lys Arg Tyr Ala
 100 105 110
 Phe Ser Thr Leu Cys Leu Phe Arg Asp Glu Ala Lys Ser Leu His Asp
 115 120 125
 Tyr Ser Val Arg Lys Phe Pro Val Leu Ser Asp Phe Ile Val Ser Phe
 130 135 140
 Met Leu Gly Ile Lys Glu Gly Ala Asn Lys Ser Leu Ile
 145 150 155

<210> 375
 <211> 372
 <212> PRT
 <213> E. Coli

<400> 375
 Met Gly Lys Ser Ile Val Val Val Ser Ala Val Asn Phe Thr Thr Gly
 1 5 10 15
 Gly Pro Phe Thr Ile Leu Lys Lys Phe Leu Ala Ala Thr Asn Asn Lys
 20 25 30
 Glu Asn Val Ser Phe Ile Ala Leu Val His Ser Ala Lys Glu Leu Lys
 35 40 45
 Glu Ser Tyr Pro Trp Val Lys Phe Ile Glu Phe Pro Glu Val Lys Gly
 50 55 60
 Ser Trp Leu Lys Arg Leu His Phe Glu Tyr Val Val Cys Lys Lys Leu
 65 70 75 80
 Ser Lys Glu Leu Asn Ala Thr His Trp Ile Cys Leu His Asp Ile Thr
 85 90 95
 Ala Asn Val Val Thr Lys Lys Arg Tyr Val Tyr Cys His Asn Pro Ala
 100 105 110

Pro	Phe	Tyr	Lys	Gly	Ile	Leu	Phe	Arg	Glu	Ile	Leu	Met	Glu	Pro	Ser
	115						120					125			
Phe	Phe	Leu	Phe	Lys	Met	Leu	Tyr	Gly	Leu	Ile	Tyr	Lys	Ile	Asn	Ile
	130					135					140				
Lys	Lys	Asn	Thr	Ala	Val	Phe	Val	Gln	Gln	Phe	Trp	Met	Lys	Glu	Lys
145					150					155					160
Phe	Ile	Lys	Lys	Tyr	Ser	Ile	Asn	Asn	Ile	Ile	Val	Ser	Arg	Pro	Glu
				165					170						175
Ile	Lys	Leu	Ser	Asp	Lys	Ser	Gln	Leu	Thr	Asp	Asp	Asp	Ser	Gln	Phe
			180					185					190		
Lys	Asn	Asn	Pro	Ser	Glu	Leu	Thr	Ile	Phe	Tyr	Pro	Ala	Val	Pro	Arg
		195					200					205			
Val	Phe	Lys	Asn	Tyr	Glu	Leu	Ile	Ile	Ser	Ala	Ala	Arg	Lys	Leu	Lys
	210					215					220				
Glu	Gln	Ser	Asn	Ile	Lys	Phe	Leu	Leu	Thr	Ile	Ser	Gly	Thr	Glu	Asn
225					230					235					240
Ala	Tyr	Ala	Lys	Tyr	Ile	Ile	Ser	Leu	Ala	Glu	Gly	Leu	Asp	Asn	Val
				245					250						255
His	Phe	Leu	Gly	Tyr	Leu	Asp	Lys	Glu	Lys	Ile	Asp	His	Cys	Tyr	Asn
			260					265					270		
Ile	Ser	Asp	Ile	Val	Cys	Phe	Pro	Ser	Arg	Leu	Glu	Thr	Trp	Gly	Leu
		275					280					285			
Pro	Leu	Ser	Glu	Ala	Lys	Glu	Arg	Gly	Lys	Trp	Val	Leu	Ala	Ser	Asp
	290					295					300				
Phe	Pro	Phe	Thr	Arg	Glu	Thr	Leu	Gly	Ser	Tyr	Glu	Lys	Lys	Ala	Phe
305					310					315					320
Phe	Asp	Ser	Asn	Asn	Asp	Asp	Met	Leu	Val	Lys	Leu	Ile	Ile	Asp	Phe
				325					330						335
Lys	Lys	Gly	Asn	Leu	Lys	Lys	Asp	Ile	Ser	Asp	Ala	Asn	Phe	Ile	Tyr
			340					345					350		
Arg	Asn	Glu	Asn	Val	Leu	Val	Gly	Phe	Asp	Glu	Leu	Val	Asn	Phe	Ile
		355					360					365			
Thr	Glu	Glu	His												
			370												

<210> 376

<211> 196

<212> PRT

<213> E. Coli

<400> 376

Met	Ile	Leu	Lys	Leu	Ala	Lys	Arg	Tyr	Gly	Leu	Cys	Gly	Phe	Ile	Arg
1				5					10					15	
Leu	Val	Arg	Asp	Val	Leu	Leu	Thr	Arg	Val	Phe	Tyr	Arg	Asn	Cys	Arg
			20					25					30		
Ile	Ile	Arg	Phe	Pro	Cys	Tyr	Ile	Arg	Asn	Asp	Gly	Ser	Ile	Asn	Phe
		35					40					45			
Gly	Glu	Asn	Phe	Thr	Ser	Gly	Val	Gly	Leu	Arg	Leu	Asp	Ala	Phe	Gly
	50					55					60				
Arg	Gly	Val	Ile	Phe	Phe	Ser	Asp	Asn	Val	Gln	Val	Asn	Asp	Tyr	Val
65					70					75					80
His	Ile	Ala	Ser	Ile	Glu	Ser	Val	Thr	Ile	Gly	Arg	Asp	Thr	Leu	Ile
			85						90					95	
Ala	Ser	Lys	Val	Phe	Ile	Thr	Asp	His	Asn	His	Gly	Ser	Phe	Lys	His
			100					105					110		
Ser	Asp	Pro	Met	Ser	Ser	Pro	Asn	Ile	Pro	Pro	Asp	Met	Arg	Thr	Leu

305 310 315 320
 Glu Glu Val Ile Asp Asp Leu Lys Thr Arg
 325 330

<210> 378
 <211> 388
 <212> PRT
 <213> E. Coli

<400> 378
 Met Ile Tyr Leu Val Ile Ser Val Phe Leu Ile Thr Ala Phe Ile Cys
 1 5 10 15
 Leu Tyr Leu Lys Lys Asp Ile Phe Tyr Pro Ala Val Cys Val Asn Ile
 20 25 30
 Ile Phe Ala Leu Val Leu Leu Gly Tyr Glu Ile Thr Ser Asp Ile Tyr
 35 40 45
 Ala Phe Gln Leu Asn Asp Ala Thr Leu Ile Phe Leu Leu Cys Asn Val
 50 55 60
 Leu Thr Phe Thr Leu Ser Cys Leu Leu Thr Glu Ser Val Leu Asp Leu
 65 70 75 80
 Asn Ile Arg Lys Val Asn Asn Ala Ile Tyr Ser Ile Pro Ser Lys Lys
 85 90 95
 Val His Asn Val Gly Leu Leu Val Ile Ser Phe Ser Met Ile Tyr Ile
 100 105 110
 Cys Met Arg Leu Ser Asn Tyr Gln Phe Gly Thr Ser Leu Leu Ser Tyr
 115 120 125
 Met Asn Leu Ile Arg Asp Ala Asp Val Glu Asp Thr Ser Arg Asn Phe
 130 135 140
 Ser Ala Tyr Met Gln Pro Ile Ile Leu Thr Thr Phe Ala Leu Phe Ile
 145 150 155 160
 Trp Ser Lys Lys Phe Thr Asn Thr Lys Val Ser Lys Thr Phe Thr Leu
 165 170 175
 Leu Val Phe Ile Val Phe Ile Phe Ala Ile Ile Leu Asn Thr Gly Lys
 180 185 190
 Gln Ile Val Phe Met Val Ile Ile Ser Tyr Ala Phe Ile Val Gly Val
 195 200 205
 Asn Arg Val Lys His Tyr Val Tyr Leu Ile Thr Ala Val Gly Val Leu
 210 215 220
 Phe Ser Leu Tyr Met Leu Phe Leu Arg Gly Leu Pro Gly Gly Met Ala
 225 230 235 240
 Tyr Tyr Leu Ser Met Tyr Leu Val Ser Pro Ile Ile Ala Phe Gln Glu
 245 250 255
 Phe Tyr Phe Gln Gln Val Ser Asn Ser Ala Ser Ser His Val Phe Trp
 260 265 270
 Phe Phe Glu Arg Leu Met Gly Leu Leu Thr Gly Gly Val Ser Met Ser
 275 280 285
 Leu His Lys Glu Phe Val Trp Val Gly Leu Pro Thr Asn Val Tyr Thr
 290 295 300
 Ala Phe Ser Asp Tyr Val Tyr Ile Ser Ala Glu Leu Ser Tyr Leu Met
 305 310 315 320
 Met Val Ile His Gly Cys Ile Ser Gly Val Leu Trp Arg Leu Ser Arg
 325 330 335
 Asn Tyr Ile Ser Val Lys Ile Phe Tyr Ser Tyr Phe Ile Tyr Thr Phe
 340 345 350
 Ser Phe Ile Phe Tyr His Glu Ser Phe Met Thr Asn Ile Ser Ser Trp
 355 360 365

Ile Gln Ile Thr Leu Cys Ile Ile Val Phe Ser Gln Phe Leu Lys Ala
 370 375 380
 Gln Lys Ile Lys
 385

<210> 379
 <211> 367
 <212> PRT
 <213> E. Coli

<400> 379
 Met Tyr Asp Tyr Ile Ile Val Gly Ser Gly Leu Phe Gly Ala Val Cys
 1 5 10 15
 Ala Asn Glu Leu Lys Lys Leu Asn Lys Lys Val Leu Val Ile Glu Lys
 20 25 30
 Arg Asn His Ile Gly Gly Asn Ala Tyr Thr Glu Asp Cys Glu Gly Ile
 35 40 45
 Gln Ile His Lys Tyr Gly Ala His Ile Phe His Thr Asn Asp Lys Tyr
 50 55 60
 Ile Trp Asp Tyr Val Asn Asp Leu Val Glu Phe Asn Arg Phe Thr Asn
 65 70 75 80
 Ser Pro Leu Ala Ile Tyr Lys Asp Lys Leu Phe Asn Leu Pro Phe Asn
 85 90 95
 Met Asn Thr Phe His Gln Met Trp Gly Val Lys Asp Pro Gln Glu Ala
 100 105 110
 Gln Asn Ile Ile Asn Ala Gln Lys Lys Lys Tyr Gly Asp Lys Val Pro
 115 120 125
 Glu Asn Leu Glu Glu Gln Ala Ile Ser Leu Val Gly Glu Asp Leu Tyr
 130 135 140
 Gln Ala Leu Ile Lys Gly Tyr Thr Glu Lys Gln Trp Gly Arg Ser Ala
 145 150 155 160
 Lys Glu Leu Pro Ala Phe Ile Ile Lys Arg Ile Pro Val Arg Phe Thr
 165 170 175
 Phe Asp Asn Asn Tyr Phe Ser Asp Arg Tyr Gln Gly Ile Pro Val Gly
 180 185 190
 Gly Tyr Thr Lys Leu Ile Glu Lys Met Leu Glu Gly Val Asp Val Lys
 195 200 205
 Leu Gly Ile Asp Phe Leu Lys Asp Lys Asp Ser Leu Ala Ser Lys Ala
 210 215 220
 His Arg Ile Ile Tyr Thr Gly Pro Ile Asp Gln Tyr Phe Asp Tyr Arg
 225 230 235 240
 Phe Gly Ala Leu Glu Tyr Arg Ser Leu Lys Phe Glu Thr Glu Arg His
 245 250 255
 Glu Phe Pro Asn Phe Gln Gly Asn Ala Val Ile Asn Phe Thr Asp Ala
 260 265 270
 Asn Val Pro Tyr Thr Arg Ile Ile Glu His Lys His Phe Asp Tyr Val
 275 280 285
 Glu Thr Lys His Thr Val Val Thr Lys Glu Tyr Pro Leu Glu Trp Lys
 290 295 300
 Val Gly Asp Glu Pro Tyr Tyr Pro Val Asn Asp Asn Lys Asn Met Glu
 305 310 315 320
 Leu Phe Lys Lys Tyr Arg Glu Leu Ala Ser Arg Glu Asp Lys Val Ile
 325 330 335
 Phe Gly Gly Arg Leu Ala Glu Tyr Lys Tyr Tyr Asp Met His Gln Val
 340 345 350

Ile Ser Ala Ala Leu Tyr Gln Val Lys Asn Ile Met Ser Thr Asp
 355 360 365

<210> 380
 <211> 371
 <212> PRT
 <213> E. Coli

<400> 380
 Met Phe Pro Lys Ile Met Asn Asp Glu Asn Phe Phe Lys Lys Ala Ala
 1 5 10 15
 Ala His Gly Glu Glu Pro Pro Leu Thr Pro Gln Asn Glu His Gln Arg
 20 25 30
 Ser Gly Leu Arg Phe Ala Arg Arg Val Arg Leu Pro Arg Ala Val Gly
 35 40 45
 Leu Ala Gly Met Phe Leu Pro Ile Ala Ser Thr Leu Val Ser His Pro
 50 55 60
 Pro Pro Gly Trp Trp Trp Leu Val Leu Val Gly Trp Ala Phe Val Trp
 65 70 75 80
 Pro His Leu Ala Trp Gln Ile Ala Ser Arg Ala Val Asp Pro Leu Ser
 85 90 95
 Arg Glu Ile Tyr Asn Leu Lys Thr Asp Ala Val Leu Ala Gly Met Trp
 100 105 110
 Val Gly Val Met Gly Val Asn Val Leu Pro Ser Thr Ala Met Leu Met
 115 120 125
 Ile Met Cys Leu Asn Leu Met Gly Ala Gly Gly Pro Arg Leu Phe Val
 130 135 140
 Ala Gly Leu Val Leu Met Val Val Ser Cys Leu Val Thr Leu Glu Leu
 145 150 155 160
 Thr Gly Ile Thr Val Ser Phe Asn Ser Ala Pro Leu Glu Trp Trp Leu
 165 170 175
 Ser Leu Pro Ile Ile Val Ile Tyr Pro Leu Leu Phe Gly Trp Val Ser
 180 185 190
 Tyr Gln Thr Ala Thr Lys Leu Ala Glu His Lys Arg Arg Leu Gln Val
 195 200 205
 Met Ser Thr Arg Asp Gly Met Thr Gly Val Tyr Asn Arg Arg His Trp
 210 215 220
 Glu Thr Met Leu Arg Asn Glu Phe Asp Asn Cys Arg Arg His Asn Arg
 225 230 235 240
 Asp Ala Thr Leu Leu Ile Ile Asp Ile Asp His Phe Lys Ser Ile Asn
 245 250 255
 Asp Thr Trp Gly His Asp Val Gly Asp Glu Ala Ile Val Ala Leu Thr
 260 265 270
 Arg Gln Leu Gln Ile Thr Leu Arg Gly Ser Asp Val Ile Gly Arg Phe
 275 280 285
 Gly Gly Asp Glu Phe Ala Val Ile Met Ser Gly Thr Pro Ala Glu Ser
 290 295 300
 Ala Ile Thr Ala Met Leu Arg Val His Glu Gly Leu Asn Thr Leu Arg
 305 310 315 320
 Leu Pro Asn Thr Pro Gln Val Thr Leu Arg Ile Ser Val Gly Val Ala
 325 330 335
 Pro Leu Asn Pro Gln Met Ser His Tyr Arg Glu Trp Leu Lys Ser Ala
 340 345 350
 Asp Leu Ala Leu Tyr Lys Ala Lys Lys Ala Gly Arg Asn Arg Thr Glu
 355 360 365
 Val Ala Ala

370

<210> 381
 <211> 467
 <212> PRT
 <213> E. Coli

<400> 381
 Met Asp Val Asn Val Asp Gln Phe Asp Thr Glu Ala Phe Arg Thr Asp
 1 5 10 15
 Lys Leu Glu Leu Thr Ser Gly Asn Ile Ala Asp His Asn Gly Asn Val
 20 25 30
 Val Ser Gly Val Phe Asp Ile His Ser Ser Asp Tyr Val Leu Asn Ala
 35 40 45
 Asp Leu Val Asn Asp Arg Thr Trp Asp Thr Ser Lys Ser Asn Tyr Gly
 50 55 60
 Tyr Gly Ile Val Ala Met Asn Ser Asp Gly His Leu Thr Ile Asn Gly
 65 70 75 80
 Asn Gly Asp Val Asp Asn Gly Thr Glu Leu Asp Asn Ser Ser Val Asp
 85 90 95
 Asn Val Val Ala Ala Thr Gly Asn Tyr Lys Val Arg Ile Asp Asn Ala
 100 105 110
 Thr Gly Ala Gly Ala Ile Ala Asp Tyr Lys Asp Lys Glu Ile Ile Tyr
 115 120 125
 Val Asn Asp Val Asn Ser Asn Ala Thr Phe Ser Ala Ala Asn Lys Ala
 130 135 140
 Asp Leu Gly Ala Tyr Thr Tyr Gln Ala Glu Gln Arg Gly Asn Thr Val
 145 150 155 160
 Val Leu Gln Gln Met Glu Leu Thr Asp Tyr Ala Asn Met Ala Leu Ser
 165 170 175
 Ile Pro Ser Ala Asn Thr Asn Ile Trp Asn Leu Glu Gln Asp Thr Val
 180 185 190
 Gly Thr Arg Leu Thr Asn Ser Arg His Gly Leu Ala Asp Asn Gly Gly
 195 200 205
 Ala Trp Val Ser Tyr Phe Gly Gly Asn Phe Asn Gly Asp Asn Gly Thr
 210 215 220
 Ile Asn Tyr Asp Gln Asp Val Asn Gly Ile Met Val Gly Val Asp Thr
 225 230 235 240
 Lys Ile Asp Gly Asn Asn Ala Lys Trp Ile Val Gly Ala Ala Ala Gly
 245 250 255
 Phe Ala Lys Gly Asp Met Asn Asp Arg Ser Gly Gln Val Asp Gln Asp
 260 265 270
 Ser Gln Thr Ala Tyr Ile Tyr Ser Ser Ala His Phe Ala Asn Asn Val
 275 280 285
 Phe Val Asp Gly Ser Leu Ser Tyr Ser His Phe Asn Asn Asp Leu Ser
 290 295 300
 Ala Thr Met Ser Asn Gly Thr Tyr Val Asp Gly Ser Thr Asn Ser Asp
 305 310 315 320
 Ala Trp Gly Phe Gly Leu Lys Ala Gly Tyr Asp Phe Lys Leu Gly Asp
 325 330 335
 Ala Gly Tyr Val Thr Pro Tyr Gly Ser Val Ser Gly Leu Phe Gln Ser
 340 345 350
 Gly Asp Asp Tyr Gln Leu Ser Asn Asp Met Lys Val Asp Gly Gln Ser
 355 360 365
 Tyr Asp Ser Met Arg Tyr Glu Leu Gly Val Asp Ala Gly Tyr Thr Phe
 370 375 380
 Thr Tyr Ser Glu Asp Gln Ala Leu Thr Pro Tyr Phe Lys Leu Ala Tyr

385 390 395 400
 Val Tyr Asp Asp Ser Asn Asn Asp Asn Asp Val Asn Gly Asp Ser Ile
 405 410 415
 Asp Asn Gly Thr Glu Gly Ser Ala Val Arg Val Gly Leu Gly Thr Gln
 420 425 430
 Phe Ser Phe Thr Lys Asn Phe Ser Ala Tyr Thr Asp Ala Asn Tyr Leu
 435 440 445
 Gly Gly Gly Asp Val Asp Gln Asp Trp Ser Ala Asn Val Gly Val Lys
 450 455 460
 Tyr Thr Trp
 465

<210> 382
 <211> 222
 <212> PRT
 <213> E. Coli

<400> 382
 Met Pro Val Lys Asp Leu Thr Gly Ile Thr Ala Lys Asp Ala Gln Met
 1 5 10 15
 Leu Ser Val Val Lys Pro Leu Gln Glu Phe Gly Lys Leu Asp Lys Cys
 20 25 30
 Leu Ser Arg Tyr Gly Thr Arg Phe Glu Phe Asn Asn Glu Lys Gln Val
 35 40 45
 Ile Phe Ser Ser Asp Val Asn Asn Glu Asp Thr Phe Val Ile Leu Glu
 50 55 60
 Gly Val Ile Ser Leu Arg Arg Glu Glu Asn Val Leu Ile Gly Ile Thr
 65 70 75 80
 Gln Ala Pro Tyr Ile Met Gly Leu Ala Asp Gly Leu Met Lys Asn Asp
 85 90 95
 Ile Pro Tyr Lys Leu Ile Ser Glu Gly Asn Cys Thr Gly Tyr His Leu
 100 105 110
 Pro Ala Lys Gln Thr Ile Thr Leu Ile Glu Gln Asn Gln Leu Trp Arg
 115 120 125
 Asp Ala Phe Tyr Trp Leu Ala Trp Gln Asn Arg Ile Leu Glu Leu Arg
 130 135 140
 Asp Val Gln Leu Ile Gly His Asn Ser Tyr Glu Gln Ile Arg Ala Thr
 145 150 155 160
 Leu Leu Ser Met Ile Asp Trp Asn Glu Glu Leu Arg Ser Arg Ile Gly
 165 170 175
 Val Met Asn Tyr Ile His Gln Arg Thr Arg Ile Ser Arg Ser Val Val
 180 185 190
 Ala Glu Val Leu Ala Ala Leu Arg Lys Gly Gly Tyr Ile Glu Met Asn
 195 200 205
 Lys Gly Lys Leu Val Ala Ile Asn Arg Leu Pro Ser Glu Tyr
 210 215 220

<210> 383
 <211> 84
 <212> PRT
 <213> E. Coli

<400> 383
 Met Thr Asp Lys Ile Arg Thr Leu Gln Gly Arg Val Val Ser Asp Lys

1		5		10		15
Met	Glu	Lys	Ser	Ile	Val	Val
		20		25		30
Ile	Tyr	Gly	Lys	Phe	Ile	Lys
	35		40		45	
Glu	Asn	Asn	Glu	Cys	Gly	Ile
	50		55		60	
Arg	Pro	Leu	Ser	Lys	Thr	Lys
	65		70		75	
Lys	Ala	Val	Leu			

<210> 384
 <211> 63
 <212> PRT
 <213> E. Coli

<400> 384															
Met	Lys	Ala	Lys	Glu	Leu	Arg	Glu	Lys	Ser	Val	Glu	Glu	Leu	Asn	Thr
1			5				10						15		
Glu	Leu	Leu	Asn	Leu	Leu	Arg	Glu	Gln	Phe	Asn	Leu	Arg	Met	Gln	Ala
		20					25					30			
Ala	Ser	Gly	Gln	Leu	Gln	Gln	Ser	His	Leu	Leu	Lys	Gln	Val	Arg	Arg
	35				40						45				
Asp	Val	Ala	Arg	Val	Lys	Thr	Leu	Leu	Asn	Glu	Lys	Ala	Gly	Ala	
	50				55						60				

<210> 385
 <211> 136
 <212> PRT
 <213> E. Coli

<400> 385															
Met	Leu	Gln	Pro	Lys	Arg	Thr	Lys	Phe	Arg	Lys	Met	His	Lys	Gly	Arg
1			5				10						15		
Asn	Arg	Gly	Leu	Ala	Gln	Gly	Thr	Asp	Val	Ser	Phe	Gly	Ser	Phe	Gly
	20						25					30			
Leu	Lys	Ala	Val	Gly	Arg	Gly	Arg	Leu	Thr	Ala	Arg	Gln	Ile	Glu	Ala
	35				40						45				
Ala	Arg	Arg	Ala	Met	Thr	Arg	Ala	Val	Lys	Arg	Gln	Gly	Lys	Ile	Trp
	50				55					60					
Ile	Arg	Val	Phe	Pro	Asp	Lys	Pro	Ile	Thr	Glu	Lys	Pro	Leu	Ala	Val
	65			70						75				80	
Arg	Met	Gly	Lys	Gly	Lys	Gly	Asn	Val	Glu	Tyr	Trp	Val	Ala	Leu	Ile
			85				90					95			
Gln	Pro	Gly	Lys	Val	Leu	Tyr	Glu	Met	Asp	Gly	Val	Pro	Glu	Glu	Leu
	100						105					110			
Ala	Arg	Glu	Ala	Phe	Lys	Leu	Ala	Ala	Ala	Lys	Leu	Pro	Ile	Lys	Thr
	115					120					125				
Thr	Phe	Val	Thr	Lys	Thr	Val	Met								
	130					135									

<210> 386
 <211> 233

<212> PRT
 <213> E. Coli

<400> 386
 Met Gly Gln Lys Val His Pro Asn Gly Ile Arg Leu Gly Ile Val Lys
 1 5 10 15
 Pro Trp Asn Ser Thr Trp Phe Ala Asn Thr Lys Glu Phe Ala Asp Asn
 20 25 30
 Leu Asp Ser Asp Phe Lys Val Arg Gln Tyr Leu Thr Lys Glu Leu Ala
 35 40 45
 Lys Ala Ser Val Ser Arg Ile Val Ile Glu Arg Pro Ala Lys Ser Ile
 50 55 60
 Arg Val Thr Ile His Thr Ala Arg Pro Gly Ile Val Ile Gly Lys Lys
 65 70 75 80
 Gly Glu Asp Val Glu Lys Leu Arg Lys Val Val Ala Asp Ile Ala Gly
 85 90 95
 Val Pro Ala Gln Ile Asn Ile Ala Glu Val Arg Lys Pro Glu Leu Asp
 100 105 110
 Ala Lys Leu Val Ala Asp Ser Ile Thr Ser Gln Leu Glu Arg Arg Val
 115 120 125
 Met Phe Arg Arg Ala Met Lys Arg Ala Val Gln Asn Ala Met Arg Leu
 130 135 140
 Gly Ala Lys Gly Ile Lys Val Glu Val Ser Gly Arg Leu Gly Gly Ala
 145 150 155 160
 Glu Ile Ala Arg Thr Glu Trp Tyr Arg Glu Gly Arg Val Pro Leu His
 165 170 175
 Thr Leu Arg Ala Asp Ile Asp Tyr Asn Thr Ser Glu Ala His Thr Thr
 180 185 190
 Tyr Gly Val Ile Gly Val Lys Val Trp Ile Phe Lys Gly Glu Ile Leu
 195 200 205
 Gly Gly Met Ala Ala Val Glu Gln Pro Glu Lys Pro Ala Ala Gln Pro
 210 215 220
 Lys Lys Gln Gln Arg Lys Gly Arg Lys
 225 230

<210> 387
 <211> 110
 <212> PRT
 <213> E. Coli

<400> 387
 Met Glu Thr Ile Ala Lys His Arg His Ala Arg Ser Ser Ala Gln Lys
 1 5 10 15
 Val Arg Leu Val Ala Asp Leu Ile Arg Gly Lys Lys Val Ser Gln Ala
 20 25 30
 Leu Asp Ile Leu Thr Tyr Thr Asn Lys Lys Ala Ala Val Leu Val Lys
 35 40 45
 Lys Val Leu Glu Ser Ala Ile Ala Asn Ala Glu His Asn Asp Gly Ala
 50 55 60
 Asp Ile Asp Asp Leu Lys Val Thr Lys Ile Phe Val Asp Glu Gly Pro
 65 70 75 80
 Ser Met Lys Arg Ile Met Pro Arg Ala Lys Gly Arg Ala Asp Arg Ile
 85 90 95
 Leu Lys Arg Thr Ser His Ile Thr Val Val Val Ser Asp Arg
 100 105 110

<210> 388
 <211> 92
 <212> PRT
 <213> E. Coli

<400> 388
 Met Pro Arg Ser Leu Lys Lys Gly Pro Phe Ile Asp Leu His Leu Leu
 1 5 10 15
 Met Lys Val Glu Lys Ala Val Glu Ser Gly Asp Lys Lys Pro Leu Arg
 20 25 30
 Thr Trp Ser Arg Arg Ser Thr Ile Phe Pro Asn Met Ile Gly Leu Thr
 35 40 45
 Ile Ala Val His Asn Gly Arg Gln His Val Pro Val Phe Val Thr Asp
 50 55 60
 Glu Met Val Gly His Lys Leu Gly Glu Phe Ala Pro Thr Arg Thr Tyr
 65 70 75 80
 Arg Gly His Ala Ala Asp Lys Lys Ala Lys Lys Lys
 85 90

<210> 389
 <211> 273
 <212> PRT
 <213> E. Coli

<400> 389
 Met Ala Val Val Lys Cys Lys Pro Thr Ser Pro Gly Arg Arg His Val
 1 5 10 15
 Val Lys Val Val Asn Pro Glu Leu His Lys Gly Lys Pro Phe Ala Pro
 20 25 30
 Leu Leu Glu Lys Asn Ser Lys Ser Gly Gly Arg Asn Asn Asn Gly Arg
 35 40 45
 Ile Thr Thr Arg His Ile Gly Gly Gly His Lys Gln Ala Tyr Arg Ile
 50 55 60
 Val Asp Phe Lys Arg Asn Lys Asp Gly Ile Pro Ala Val Val Glu Arg
 65 70 75 80
 Leu Glu Tyr Asp Pro Asn Arg Ser Ala Asn Ile Ala Leu Val Leu Tyr
 85 90 95
 Lys Asp Gly Glu Arg Arg Tyr Ile Leu Ala Pro Lys Gly Leu Lys Ala
 100 105 110
 Gly Asp Gln Ile Gln Ser Gly Val Asp Ala Ala Ile Lys Pro Gly Asn
 115 120 125
 Thr Leu Pro Met Arg Asn Ile Pro Val Gly Ser Thr Val His Asn Val
 130 135 140
 Glu Met Lys Pro Gly Lys Gly Gly Gln Leu Ala Arg Ser Ala Gly Thr
 145 150 155 160
 Tyr Val Gln Ile Val Ala Arg Asp Gly Ala Tyr Val Thr Leu Arg Leu
 165 170 175
 Arg Ser Gly Glu Met Arg Lys Val Glu Ala Asp Cys Arg Ala Thr Leu
 180 185 190
 Gly Glu Val Gly Asn Ala Glu His Met Leu Arg Val Leu Gly Lys Ala
 195 200 205
 Gly Ala Ala Arg Trp Arg Gly Val Arg Pro Thr Val Arg Gly Thr Ala

210		215		220											
Met	Asn	Pro	Val	Asp	His	Pro	His	Gly	Gly	Gly	Glu	Gly	Arg	Asn	Phe
225					230					235					240
Gly	Lys	His	Pro	Val	Thr	Pro	Trp	Gly	Val	Gln	Thr	Lys	Gly	Lys	Lys
			245						250					255	
Thr	Arg	Ser	Asn	Lys	Arg	Thr	Asp	Lys	Phe	Ile	Val	Arg	Arg	Arg	Ser
			260					265					270		
Lys															

<210> 390
 <211> 100
 <212> PRT
 <213> E. Coli

<400> 390															
Met	Ile	Arg	Glu	Glu	Arg	Leu	Leu	Lys	Val	Leu	Arg	Ala	Pro	His	Val
1				5					10					15	
Ser	Glu	Lys	Ala	Ser	Thr	Ala	Met	Glu	Lys	Ser	Asn	Thr	Ile	Val	Leu
			20					25					30		
Lys	Val	Ala	Lys	Asp	Ala	Thr	Lys	Ala	Glu	Ile	Lys	Ala	Ala	Val	Gln
		35					40					45			
Lys	Leu	Phe	Glu	Val	Glu	Val	Glu	Val	Val	Asn	Thr	Leu	Val	Val	Lys
	50					55					60				
Gly	Lys	Val	Lys	Arg	His	Gly	Gln	Arg	Ile	Gly	Arg	Arg	Ser	Asp	Trp
65					70					75					80
Lys	Lys	Ala	Tyr	Val	Thr	Leu	Lys	Glu	Gly	Gln	Asn	Leu	Asp	Phe	Val
				85					90					95	
Gly	Gly	Ala	Glu												
			100												

<210> 391
 <211> 201
 <212> PRT
 <213> E. Coli

<400> 391															
Met	Glu	Leu	Val	Leu	Lys	Asp	Ala	Gln	Ser	Ala	Leu	Thr	Val	Ser	Glu
1				5					10					15	
Thr	Thr	Phe	Gly	Arg	Asp	Phe	Asn	Glu	Ala	Leu	Val	His	Gln	Val	Val
			20					25					30		
Val	Ala	Tyr	Ala	Ala	Gly	Ala	Arg	Gln	Gly	Thr	Arg	Ala	Gln	Lys	Thr
		35					40					45			
Arg	Ala	Glu	Val	Thr	Gly	Ser	Gly	Lys	Lys	Pro	Trp	Arg	Gln	Lys	Gly
	50					55					60				
Thr	Gly	Arg	Ala	Arg	Ser	Gly	Ser	Ile	Lys	Ser	Pro	Ile	Trp	Arg	Ser
65					70					75					80
Gly	Gly	Val	Thr	Phe	Ala	Ala	Arg	Pro	Gln	Asp	His	Ser	Gln	Lys	Val
				85					90					95	
Asn	Lys	Lys	Met	Tyr	Arg	Gly	Ala	Leu	Lys	Ser	Ile	Leu	Ser	Glu	Leu
			100					105					110		
Val	Arg	Gln	Asp	Arg	Leu	Ile	Val	Val	Glu	Lys	Phe	Ser	Val	Glu	Ala
			115				120						125		

Pro Lys Thr Lys Leu Leu Ala Gln Lys Leu Lys Asp Met Ala Leu Glu
130 135 140
Asp Val Leu Ile Ile Thr Gly Glu Leu Asp Glu Asn Leu Phe Leu Ala
145 150 155 160
Ala Arg Asn Leu His Lys Val Asp Val Arg Asp Ala Thr Gly Ile Asp
165 170 175
Pro Val Ser Leu Ile Ala Phe Asp Lys Val Val Met Thr Ala Asp Ala
180 185 190
Val Lys Gln Val Glu Glu Met Leu Ala
195 200

<210> 392
<211> 209
<212> PRT
<213> E. Coli

<400> 392
Met Ile Gly Leu Val Gly Lys Lys Val Gly Met Thr Arg Ile Phe Thr
1 5 10 15
Glu Asp Gly Val Ser Ile Pro Val Thr Val Ile Glu Val Glu Ala Asn
20 25 30
Arg Val Thr Gln Val Lys Asp Leu Ala Asn Asp Gly Tyr Arg Ala Ile
35 40 45
Gln Val Thr Thr Gly Ala Lys Lys Ala Asn Arg Val Thr Lys Pro Glu
50 55 60
Ala Gly His Phe Ala Lys Ala Gly Val Glu Ala Gly Arg Gly Leu Trp
65 70 75 80
Glu Phe Arg Leu Ala Glu Gly Glu Glu Phe Thr Val Gly Gln Ser Ile
85 90 95
Ser Val Glu Leu Phe Ala Asp Val Lys Lys Val Asp Val Thr Gly Thr
100 105 110
Ser Lys Gly Lys Gly Phe Ala Gly Thr Val Lys Arg Trp Asn Phe Arg
115 120 125
Thr Gln Asp Ala Thr His Gly Asn Ser Leu Ser His Arg Val Pro Gly
130 135 140
Ser Ile Gly Gln Asn Gln Thr Pro Gly Lys Val Phe Lys Gly Lys Lys
145 150 155 160
Met Ala Gly Gln Met Gly Asn Glu Arg Val Thr Val Gln Ser Leu Asp
165 170 175
Val Val Arg Val Asp Ala Glu Arg Asn Leu Leu Leu Val Lys Gly Ala
180 185 190
Val Pro Gly Ala Thr Gly Ser Asp Leu Ile Val Lys Pro Ala Val Lys
195 200 205
Ala

<210> 393
<211> 103
<212> PRT
<213> E. Coli

<400> 393
Met Gln Asn Gln Arg Ile Arg Ile Arg Leu Lys Ala Phe Asp His Arg

1	5	10	15
Leu Ile Asp	Gln Ala Thr Ala Glu	Ile Val Glu Thr Ala Lys Arg Thr	
	20	25	30
Gly Ala Gln	Val Arg Gly Pro Ile	Pro Leu Pro Thr Arg Lys Glu Arg	
	35	40	45
Phe Thr Val	Leu Ile Ser Pro His Val Asn Lys Asp	Ala Arg Asp Gln	
	50	55	60
Tyr Glu Ile	Arg Thr His Leu Arg Leu Val Asp	Ile Val Glu Pro Thr	
	65	70	75
Glu Lys Thr	Val Asp Ala Leu Met Arg Leu Asp	Leu Ala Ala Gly Val	
	85	90	95
Asp Val Gln	Ile Ser Leu Gly		
	100		

<210> 394
 <211> 118
 <212> PRT
 <213> E. Coli

<400> 394															
Met Ala Arg	Val Lys Arg Gly	Val Ile Ala Arg	Ala Arg His Lys Lys												
1	5	10	15												
Ile Leu Lys	Gln Ala Lys Gly Tyr Tyr	Gly Ala Arg Ser Arg	Val Tyr												
	20	25	30												
Arg Val Ala	Phe Gln Ala Val Ile Lys	Ala Gly Gln Tyr Ala Tyr Arg													
	35	40	45												
Asp Arg Arg	Gln Arg Lys Arg Gln Phe Arg	Gln Leu Trp Ile Ala Arg													
	50	55	60												
Ile Asn Ala	Ala Ala Arg Gln Asn Gly Ile Ser Tyr	Ser Lys Phe Ile													
	65	70	75		80										
Asn Gly Leu	Lys Lys Ala Ser Val Glu Ile Asp	Arg Lys Ile Leu Ala													
	85	90	95												
Asp Ile Ala	Val Phe Asp Lys Val Ala Phe Thr	Ala Leu Val Glu Lys													
	100	105	110												
Ala Lys Ala	Ala Leu Ala														
	115														

<210> 395
 <211> 65
 <212> PRT
 <213> E. Coli

<400> 395															
Met Pro Lys	Ile Lys Thr Val Arg Gly	Ala Ala Lys Arg Phe Lys Lys													
1	5	10	15												
Thr Gly Lys	Gly Gly Phe Lys His Lys His	Ala Asn Leu Arg His Ile													
	20	25	30												
Leu Thr Lys	Lys Ala Thr Lys Arg Lys Arg	His Leu Arg Pro Lys Ala													
	35	40	45												
Met Val Ser	Lys Gly Asp Leu Gly Leu Val Ile Ala	Cys Leu Pro Tyr													
	50	55	60												
Ala															
65															

<210> 396
 <211> 180
 <212> PRT
 <213> E. Coli

<400> 396
 Met Lys Gly Gly Lys Arg Val Gln Thr Ala Arg Pro Asn Arg Ile Asn
 1 5 10 15
 Gly Glu Ile Arg Ala Gln Glu Val Arg Leu Thr Gly Leu Glu Gly Glu
 20 25 30
 Gln Leu Gly Ile Val Ser Leu Arg Glu Ala Leu Glu Lys Ala Glu Glu
 35 40 45
 Ala Gly Val Asp Leu Val Glu Ile Ser Pro Asn Ala Glu Pro Pro Val
 50 55 60
 Cys Arg Ile Met Asp Tyr Gly Lys Phe Leu Tyr Glu Lys Ser Lys Ser
 65 70 75 80
 Ser Lys Glu Gln Lys Lys Lys Gln Lys Val Ile Gln Val Lys Glu Ile
 85 90 95
 Lys Phe Arg Pro Gly Thr Asp Glu Gly Asp Tyr Gln Val Lys Leu Arg
 100 105 110
 Ser Leu Ile Arg Phe Leu Glu Glu Gly Asp Lys Ala Lys Ile Thr Leu
 115 120 125
 Arg Phe Arg Gly Arg Glu Met Ala His Gln Gln Ile Gly Met Glu Val
 130 135 140
 Leu Asn Arg Val Lys Asp Asp Leu Gln Glu Leu Ala Val Val Glu Ser
 145 150 155 160
 Phe Pro Thr Lys Ile Glu Gly Arg Gln Met Ile Met Val Leu Ala Pro
 165 170 175
 Lys Lys Lys Gln
 180

<210> 397
 <211> 642
 <212> PRT
 <213> E. Coli

<400> 397
 Met Pro Val Ile Thr Leu Pro Asp Gly Ser Gln Arg His Tyr Asp His
 1 5 10 15
 Ala Val Ser Pro Met Asp Val Ala Leu Asp Ile Gly Pro Gly Leu Ala
 20 25 30
 Lys Ala Cys Ile Ala Gly Arg Val Asn Gly Glu Leu Val Asp Ala Cys
 35 40 45
 Asp Leu Ile Glu Asn Asp Ala Gln Leu Ser Ile Ile Thr Ala Lys Asp
 50 55 60
 Glu Glu Gly Leu Glu Ile Ile Arg His Ser Cys Ala His Leu Leu Gly
 65 70 75 80
 His Ala Ile Lys Gln Leu Trp Pro His Thr Lys Met Ala Ile Gly Pro
 85 90 95
 Val Ile Asp Asn Gly Phe Tyr Tyr Asp Val Asp Leu Asp Arg Thr Leu
 100 105 110
 Thr Gln Glu Asp Val Glu Ala Leu Glu Lys Arg Met His Glu Leu Ala
 115 120 125

Glu	Lys	Asn	Tyr	Asp	Val	Ile	Lys	Lys	Lys	Val	Ser	Trp	His	Glu	Ala
130						135					140				
Arg	Glu	Thr	Phe	Ala	Asn	Arg	Gly	Glu	Ser	Tyr	Lys	Val	Ser	Ile	Leu
145					150					155					160
Asp	Glu	Asn	Ile	Ala	His	Asp	Asp	Lys	Pro	Gly	Leu	Tyr	Phe	His	Glu
				165					170					175	
Glu	Tyr	Val	Asp	Met	Cys	Arg	Gly	Pro	His	Val	Pro	Asn	Met	Arg	Phe
			180					185					190		
Cys	His	His	Phe	Lys	Leu	Met	Lys	Thr	Ala	Gly	Ala	Tyr	Trp	Arg	Gly
		195					200					205			
Asp	Ser	Asn	Asn	Lys	Met	Leu	Gln	Arg	Ile	Tyr	Gly	Thr	Ala	Trp	Ala
	210					215					220				
Asp	Lys	Lys	Ala	Leu	Asn	Ala	Tyr	Leu	Gln	Arg	Leu	Glu	Glu	Ala	Ala
225					230					235					240
Lys	Arg	Asp	His	Arg	Lys	Ile	Gly	Lys	Gln	Leu	Asp	Leu	Tyr	His	Met
				245					250					255	
Gln	Glu	Glu	Ala	Pro	Gly	Met	Val	Phe	Trp	His	Asn	Asp	Gly	Trp	Thr
			260					265					270		
Ile	Phe	Arg	Glu	Leu	Glu	Val	Phe	Val	Arg	Ser	Lys	Leu	Lys	Glu	Tyr
		275					280					285			
Gln	Tyr	Gln	Glu	Val	Lys	Gly	Pro	Phe	Met	Met	Asp	Arg	Val	Leu	Trp
	290					295					300				
Glu	Lys	Thr	Gly	His	Trp	Asp	Asn	Tyr	Lys	Asp	Ala	Met	Phe	Thr	Thr
305					310					315					320
Ser	Ser	Glu	Asn	Arg	Glu	Tyr	Cys	Ile	Lys	Pro	Met	Asn	Cys	Pro	Gly
				325					330					335	
His	Val	Gln	Ile	Phe	Asn	Gln	Gly	Leu	Lys	Ser	Tyr	Arg	Asp	Leu	Pro
			340					345					350		
Leu	Arg	Met	Ala	Glu	Phe	Gly	Ser	Cys	His	Arg	Asn	Glu	Pro	Ser	Gly
		355					360					365			
Ser	Leu	His	Gly	Leu	Met	Arg	Val	Arg	Gly	Phe	Thr	Gln	Asp	Asp	Ala
	370					375					380				
His	Ile	Phe	Cys	Thr	Glu	Glu	Gln	Ile	Arg	Asp	Glu	Val	Asn	Gly	Cys
385					390					395					400
Ile	Arg	Leu	Val	Tyr	Asp	Met	Tyr	Ser	Thr	Phe	Gly	Phe	Glu	Lys	Ile
				405					410					415	
Val	Val	Lys	Leu	Ser	Thr	Arg	Pro	Glu	Lys	Arg	Ile	Gly	Ser	Asp	Glu
			420					425					430		
Met	Trp	Asp	Arg	Ala	Glu	Ala	Asp	Leu	Ala	Val	Ala	Leu	Glu	Glu	Asn
		435					440					445			
Asn	Ile	Pro	Phe	Glu	Tyr	Gln	Leu	Gly	Glu	Gly	Ala	Phe	Tyr	Gly	Pro
	450					455					460				
Lys	Ile	Glu	Phe	Thr	Leu	Tyr	Asp	Cys	Leu	Asp	Arg	Ala	Trp	Gln	Cys
465					470					475					480
Gly	Thr	Val	Gln	Leu	Asp	Phe	Ser	Leu	Pro	Ser	Arg	Leu	Ser	Ala	Ser
				485					490					495	
Tyr	Val	Gly	Glu	Asp	Asn	Glu	Arg	Lys	Val	Pro	Val	Met	Ile	His	Arg
			500					505					510		
Ala	Ile	Leu	Gly	Ser	Met	Glu	Arg	Phe	Ile	Gly	Ile	Leu	Thr	Glu	Glu
		515					520					525			
Phe	Ala	Gly	Phe	Phe	Pro	Thr	Trp	Leu	Ala	Pro	Val	Gln	Val	Val	Ile
	530					535					540				
Met	Asn	Ile	Thr	Asp	Ser	Gln	Ser	Glu	Tyr	Val	Asn	Glu	Leu	Thr	Gln
545					550					555					560
Lys	Leu	Ser	Asn	Ala	Gly	Ile	Arg	Val	Lys	Ala	Asp	Leu	Arg	Asn	Glu
				565					570					575	
Lys	Ile	Gly	Phe	Lys	Ile	Arg	Glu	His	Thr	Leu	Arg	Arg	Val	Pro	Tyr

gugagcuauu	acgcuuucuu	uaaaugaugg	cugcuucuaa	gccaaacaucc	uggcugucug	1860
ggccuuccca	caucguuucc	cacuaaacca	ugacuunggg	accuuagcug	gcgguucuggg	1920
uuguuucccu	cuucacgacg	gacguuagca	cccgccgugu	gucucccgug	auaacaauucu	1980
ccgguaauucg	caguungcau	cggguuggua	agucgggaug	accccuugc	cgaaacagug	2040
cucuaccccc	ggagaugaau	ucacgaggcg	cuaccuaaa	agcuuucggg	gagaaccagc	2100
uauucuccgg	uuugauuggc	cuuucacccc	cagccacaag	ucauccgcua	auuuuuaac	2160
auuagucggg	ucgguccucc	aguuauguu	acccaaccuu	caaccugccc	auggcuaugu	2220
caccggguuu	cgggucuaa	cccugcaacu	uaacgcccag	uuuagacucg	guuucccuuc	2280
ggcuccccua	uucgguaaac	cuugcuacag	aaauaaaguc	gcugacccau	uauacaaaag	2340
guacgcaguc	acacgccuaa	gcgugcuccc	acugcuugua	cguacacggg	uucagguucu	2400
uuuucacucc	ccucgccggg	guucuuuucg	ccuuucccuc	acgguacugg	uucacuaucg	2460
gucagucagg	aguauuuagc	cuuggaggau	ggucccccca	uauucagaca	ggauaccacg	2520
ugucccgccc	uacucaucga	gcucacagca	ugugcauuuu	uguguacggg	gcugaccacc	2580
uguaucgcg	gccuuuccag	acgcuuccac	uaacacacac	acugauucag	gcucugggcu	2640
gcuccccguu	cgcucgccgc	uacuggggga	aucucggguu	auuucuuuuc	cucgggguac	2700
uuagauguuu	caguuccccc	gguucgccuc	auuaaccuau	ggauucaguu	aaugauagug	2760
ugucgaaaca	cacuggguuu	ccccauucgg	aaaucgccgg	uuauaacggg	ucauauacc	2820
uuaccgacgc	uuaucgagca	uuagcacguc	cuucaucgcc	ucugacugcc	agggcaucca	2880
ccguguacgc	uuagucgcuu	aacc				2904

<210> 400

<211> 120

<212> RNA

<213> E. Coli

<400> 400

augccuggca	guucccuacu	cucgcauggg	gagacccac	acuaccuacg	gcgcuacggc	60
guuucacuuc	ugaguucggc	auggggucag	gugggaccac	cgcgcuacgg	ccgccaggca	120

<210> 401

<211> 76

<212> RNA

<213> E. Coli

<400> 401

gucccuucg	ucuagaggcc	caggacaccg	cccuuucacg	gcgguaacag	ggguucgaau	60
cccuagggg	acgcca					76

<210> 402

<211> 1549

<212> RNA

<213> E. Coli

<400> 402

aaauugaaga	guuugaucau	ggcucagauu	gaacgcuggc	ggcaggccua	acacaugcaa	60
gucgaacggg	aacaggaagc	agcuugcugc	uucgcugacg	aguggcgag	gggugaguua	120
ugucugggaa	gcugccugau	ggagggggau	aacuacugga	aacgguagcu	aaauaccgcau	180
aaugucgcaa	gaccaaagag	ggggaccuuc	gggccucuug	ccaucggau	ugcccagau	240
ggauuagcuu	guuggugggg	uaacggcuca	ccaaggcgac	gaucuuuagc	uggucugaga	300
ggauagaccg	ccacacugga	acugagacac	gguccagacu	ccuacgggag	gcagcagugg	360
ggauauuugc	acaaugggag	caagccugau	gcagccau	cgcguguaug	aagaaggccu	420

ucggguugua	aaguacuuuc	agcggggagg	aagggaguua	aguuaauacc	uuugcucauu	480
gacguuaccc	gcagaagaag	caccggcuua	cuccgugcca	gcagccgcgg	uaauacggag	540
ggugcaagcg	uuaaucggaa	uuacugggcg	uaaagcgcac	gcaggcgggg	ugguuaaguc	600
agaugugaaa	uccccgggcu	caaccuggga	acugcaucug	auacuggcaa	gcuugagucu	660
cguagagggg	gguagaauuc	cagguguagc	ggugaaaugc	guagagauuc	ggaggaauac	720
cgguggcgaa	ggcggcccc	uggacgaaga	cugacgcuca	ggugcgaaag	cguggggagc	780
aaacaggauu	agauaccug	guaguaccag	ccguaaacga	ugucgacuug	gagguugugc	840
ccuugaggcg	uggcuuccgg	agcuaacgcg	uuaagucgac	cgccugggga	guacggccgc	900
aagguuaaaa	cucaaaugaa	uugacggggg	cccgcacaag	cgguggagca	ugugguuuaa	960
uucgaugcaa	cgcgaaagaac	cuuaccuggu	cuugacaucc	acggaaguuu	ucagagauga	1020
gaugugccu	ucgggaaccg	ugagacaggu	gcugcauggc	ugucgucagc	ucguguugug	1080
aaauguuggg	uuaagucccg	caacgagcgc	aaccuuauuc	cuuuguugcc	agcgguccgg	1140
ccgggaacuc	aaaggagacu	gccagugaua	aacuggagga	agguggggau	gacgucaagu	1200
caucauggcc	cuuacgacca	gggcuacaca	cgugcuacaa	uggcgcauac	aaagagaagc	1260
gaccucgcga	gagcaagcgg	accucauaaa	gugcgucgua	guccggauug	gagucugcaa	1320
cucgacucca	ugaagucgga	aucgcuagua	aucguggauc	agaaugccac	ggugaauacg	1380
uucccgggcc	uuguacacac	cgcccugcac	accaugggag	uggguugcaa	aagaaguagg	1440
uagcuuaacc	uucggggagg	cgcuuaccac	uuugugauuc	augacugggg	ugaagucgua	1500
acaagguaac	cguaggggaa	ccugcgguug	gaucaccucc	uuaccuuaa		1549

<210> 403

<211> 17

<212> DNA

<213> Artificial

<220>

<223> Primer Oligonucleotide

<400> 403

tgtttatcag accgctt

17

<210> 404

<211> 18

<212> DNA

<213> Artificial

<220>

<223> Primer Oligonucleotide

<400> 404

acaatttcac acagcctc

18

<210> 405

<211> 159

<212> DNA

<213> Escherichia coli

<400> 405

caggtggtat ggaaacccaa aatggagacg ggaagctgaa ccagatagtt actggaggtg

60

atcaccagca gatgaaataa cgataaccag aacaacgcct tatagcggtg agtttgcgag

120

aaaacgttca tattgtacct ttttgattaa ccattgggg

159

<210> 406

<211> 640

<212> DNA
 <213> Escherichia coli

<220>
 <221> misc_feature
 <222> (1)...(640)
 <223> n = A,T,C or G

<400> 406
 ggggnccaaa gtgtttgggn cgggcaactg gagggccaacc ttaanttngg ggaaatTTTT 60
 aaaaaaggc ggggatttgt nagccacggg ngattanttt anaataaatt aagtgttgcc 120
 ataaggggac aaagngaagg aagtggntat taanggannc gccaatgcga nttagggcag 180
 accattcggc cattcgcctt cttggttata gaagttcata cagatagccg ttgccngacc 240
 gaccagattc gcttcnggca caaagcccca gtaacggctg tccgcgctgt tgtcgcgggt 300
 gtcgcccata atgaagtatt gtcccggagg aacaatccag gttgccagtt gttgccctgg 360
 ctgctggtaa tacatcccca cctgatacctg cgcaatcggc actgtcagaa tgcgggtgct 420
 cacatcaccc agtgtctctt tacgctcgga aagacgaatt ccattttctt tggtttcggt 480
 tttcggcact tcaaagaatc cgctggctgc ttccccacca ttacggcgctg agaaggtctg 540
 aacgaaatcg ctcggttcca cgtttgagta ggtgaccggc agcgcgtttt cacacgcctg 600
 gccggaactg catcccgggt gaatcgtcag ctcttttgag . 640

<210> 407
 <211> 682
 <212> DNA
 <213> Escherichia coli

<220>
 <221> misc_feature
 <222> (1)...(682)
 <223> n = A,T,C or G

<400> 407
 cctgcagggt aatgtcgcca ttaaaactggc gcaggcagcc aaagagttgc tccgcttcta 60
 cccagtcggc agcgacaact tgcgttaaag tcgcaaaatt atcatctgca ctactgcgt 120
 gacgtaagcg gatggagtgg ccggaacct catagtacc gccaccagt tggcctgcat 180
 cgctttgtag cgtacgcgcg gcattggcaa taagattcag atactcagac tcttccgggg 240
 ctttcgccag cataaaagag gaggatgctc gcgtatgcag caactgctcc agcgcaaatt 300
 gcagccgcgg ttgagtatca ctgaataaag gatcgttttc gtcaatcaaa tgtggctgag 360
 caaatatttc ctgatagcta tcggtatcag gaaccaggctc acgccatgca agtttcgtaa 420
 tgggtcaaagt tgatgttttt tagtctgttg tcaaagccgc nattataccn gtaaccggca 480
 ctacagcaca cgtagaaagc acccgacaat actcctggca tgggcgttaa agctcacagg 540
 atggagatct tttcttcaact ggctaaaaaa gctgatattc tgtaaagagt tacacngtaa 600
 cattgagatc gctatgaaat atcaacaact tggaaaatct tgnaaagcng gttggaaaat 660
 ggaaagtatc tggttaagaa gc 682

<210> 408
 <211> 309
 <212> DNA
 <213> Escherichia coli

<400> 408
 ggggatccgg cagaatTTTta cgctgaccaa tgacgcgacg acgtggcatg gaaatactcc 60
 gttgttaatt caggattgtc caaaactcta cgagtttagt ttgacattta agttaaAACg 120
 tttggcctta cttaacggag aaccattaag ccttaggacg cttcacgcca tacttggaac 180
 gagcctgctt acggtctTTta acgccggagc agtcaagcgc accacgtacg gtgtggtaac 240
 gaacaccccg gaggtctTTta acacgaccgc cacggatcag gatcacggag tgctcctgca 300
 gccaaagctt 309

<210> 409
 <211> 1167
 <212> DNA
 <213> Escherichia coli

<400> 409

gtcgacccat	ctgtccattg	agcggacagt	ttgtgcaaca	ctatttttgtt	gaccggaaaa	60
tggaacactt	tccgcaatgc	ctgttgctat	cacgcttaaa	ccatttcatt	gcgatttaca	120
cagaacggac	gtcctgtcgc	agtatatata	gtcgtcgata	gaaacaagca	ttgaaaggca	180
cagcagtagt	caaacagtgt	gaaacgctac	tggcgcctta	cagcgcaaaa	aggctgggtga	240
ctaaaaagtc	accagccatc	agcctgattt	ctcaggctgc	aaccggaagg	gttggcttat	300
ttaacttcaa	cttcagcgcc	agcttcttcc	agagcttttt	tcagtgtctc	tgcgtcgtct	360
ttgctcacgc	cttcttttcag	agcagccggg	gcagattcta	ccaggctctt	agcttctttc	420
agaccaggc	cagttgcgcc	acgtactgct	ttgataacag	caactttgtt	agcgccagca	480
gctttcagaa	ttacgtcgaa	ttcagttttt	tcttcagcag	cttcaaccgg	gccagcagct	540
acagctacag	cagcagcagc	ggaaacaccg	aatttttctt	ycattgcaga	gatcaagttc	600
tacaacgtcc	attacagaca	tagctgcaac	tgcttcaatg	awttgatctt	tagtgataga	660
cattttaaatk	gttcctgaat	atcagaataa	gtttatacgt	aagcgaatgc	gttaaaaaga	720
taactgcgaw	taagcagctt	ytcttcgcatc	gcgtacagma	gccagagtac	gaaccagttt	780
gccagccgaa	gcttctttca	tgggtgccat	caggcgtgca	attgcttctt	cgtaggtcgg	840
cagagttgcc	aggcgggtcga	tctgagacgc	cgggatcagc	tcaccttcaa	aggcagcggc	900
tttgacctca	aattttgcat	tgcgttttcg	gaactctttg	aacagacgag	cagcagcgcc	960
cgggtgttcc	atagagtatg	caatcagggt	cggaccaaca	aacgcgtctt	tcaggcactc	1020
gaacggagta	ccttcaacag	cacggcgagc	cagggtgtta	cgaacaacac	gcattgtatac	1080
gccagcttcg	cgacctgctt	tacgcagttc	agtcatttta	tctacagtta	cgcccacggg	1140
aatccgcaac	tactgcaagc	caagctt				1167

<210> 410
 <211> 404
 <212> DNA
 <213> Escherichia coli

<400> 410

caacmctatt	ttgktggacc	ggaaaakgga	acacttttccg	cawkgcctgt	tgctatcacg	60
cttaaaccat	ttcattgcga	tttacacaga	acggacgtcc	tgctgcagta	tattaagtcg	120
tcgatagaaa	caagcattga	aaggcacagc	agtagtcaaa	cagtgtgaaa	cgctactggc	180
gccttacagc	gcaaaaaggc	tgggtgactaa	aaagtcacca	gccatcagcc	tgattttctca	240
ggctgcaacc	ggaagggttg	gcttatttta	cttcaacttc	agcgccagct	tcttccagag	300
cttttttcag	tgtttctgcg	togtctttgc	tcacgccttc	tttcagagca	gccggtgcag	360
attctaccag	gtcttttagct	tctttcagac	ccaggccagt	tgcg		404

<210> 411
 <211> 152
 <212> DNA
 <213> Escherichia coli

<400> 411

agagcttttt	tcagtgtctc	tgcgtcgtct	ttgctcacgc	cttcttttcaa	gagcagccccg	60
gtgcagattc	taccaggtct	ttagcttctt	tcagacccag	gccagttgcg	ccacgtactg	120
ctttgataac	agcaactttg	ttagcgccag	ca			152

<210> 412
 <211> 825
 <212> DNA
 <213> Escherichia coli

<220>
 <221> misc_feature
 <222> (1)...(825)
 <223> n = A,T,C or G

<400> 412
 gatccgtcga cccatctgtc cattgagcgg acagtttgtg caacactatt ttgttgaccg 60
 gaaaatggaa cactttccgc aatgcctggt gctatcacgc ttaamccatt tcattgcat 120
 ttacacagaa cggacgtcct gtcgcagtat attaagtcgt cgatagaaac aagcattgaa 180
 aggacagca gtagtcaaac agtgtgaaac gctactggcg ccttacagcg caaaaaggct 240
 ggtgactaaa aagtcaccag ccatcagcct gatttctcag gctgcaaccg gaagggttgg 300
 cttatttaac ttcaacttca gcgccagctt cttccagagc ttttttcagt gcttctgct 360
 cgtctttgct cagccttct ttcagagcag ccgggtgcag attctaccag gtcttttagct 420
 tctttcagac ccaggccagt tgcgccacgt actgctttga taacagcaac tttgttagcg 480
 ccagcagctt tcagaattac gtcgaattca agtttttct tccagcagctt caaccgggcc 540
 agcagctaca gctacagcag cagcagcggg aacaccgaat ttttcttyca ttggcagaga 600
 tcaagttcta caacgtccat tacagacata gctgcaactg cttcaatgat tkgatcttwa 660
 gtgatagaca tttaaattgt tcctgaatat cagaataagt ttatacgtaa gcgaatgcgt 720
 taaaaagata actgcgatta agcagcttct ttcgcatcgc gtacagcagc cagaggtcga 780
 accagtttgc cagccgaagg ttggcttttc agcctnnnch natta 825

<210> 413
 <211> 425
 <212> DNA
 <213> Escherichia coli

<400> 413
 agtagtcaaa caggtgkgra acgctactgg cgccttacag cgcaaaaagg ctggtgacta 60
 aaaagtcacc agccatcarc ctgatttctc aggctgcaac ccggaagggt tggcttattt 120
 aacttcaact tcagcgccag cttcttccag agcttttttc agtgcttctg cgtcgtcttt 180
 gtcacgcct tctttcagag cagccgggtgc agattctacc aggtcttttag cttctttcag 240
 acccaggcca gttgcgccac gtactgcttt gataacagca actttgtag cgccagcagc 300
 tttcagaatt acgtcgaatt cagttttttc ttcagcagct tcaaccgggc cagcagctac 360
 agctacagca gcagcagcgg aaacacccga atttttcttc cattgcagag atcaagttct 420
 acaac 425

<210> 414
 <211> 126
 <212> DNA
 <213> Escherichia coli

<400> 414
 agagcttttt tcagtgtctt tgcgtcgtct ttgctcacgc cttctttcag agcagccggt 60
 gcagattcta ccagggtcttt agcttctttc agaccaggc cagttgcgcc acgtactgct 120
 ttrata 126

<210> 415
 <211> 264
 <212> DNA
 <213> Escherichia coli

<400> 415
 ctgcmacccg garggggttg cttatttaac ttcaacttca gcgccagctt cttycagagc 60
 ttttttcaag tgcttctgct tgcgtctttg tcaagccttc tttcagagca gccggtgcag 120
 attctaccag gtcttttagct tctttcagac ccaggccagt tgcgccacgt actgctttga 180
 taacagcaac tttgttagcg ccagcagctt tcagaattac gtcgaattca gttttttctt 240
 cagcagcttc aaccgggcca gcag 264

<210> 416
 <211> 201
 <212> DNA
 <213> Escherichia coli

<400> 416
 cgcataccct gcagcatcgg cccgatggag atcagggtcgg cagaacgctg taccgctttg 60
 taggtggtgt taccggtgtt cagatccggg aagatgaaca cggtagcgcg acctgcaacc 120
 ggagagttcg gcgcttttga tttcgcaacg tcagccatta ccgcagcgtc gtactgcagc 180
 ggaccgtcga tcatcaggtc a 201

<210> 417
 <211> 239
 <212> DNA
 <213> Escherichia coli

<400> 417
 aattcagcag ttgacagtgg cataaacgta actggtgact tttgcccggc atgacgccgg 60
 gcttttttta ttattccgtg acttccagcg tagtgaaggc aaactttctcg ccatcaaata 120
 gcccttgact ggtagtttt agcgcgggga tcaactggcag agaaagaaac gccatctgaa 180
 taaacggctc atcgggtaac ggaccgcatt cacgggcggc ggctttcaag gcgtcaatt 239

<210> 418
 <211> 223
 <212> DNA
 <213> Escherichia coli

<400> 418
 ttcttttttt cgtcaacggg gtccagaatc attttattta cctcgggtac ttatgctgat 60
 ttttattatt atggggaagg tgttatttat gagtttcatt tatgccgtaa cgacaatgaa 120
 ctcgggaatt agtataagca gcgcgagaat aataatcatt gtgcaaatgc taatttaatt 180
 aatactatatt aaatattatt ttgagcatat gcacataagg ttg 223

<210> 419
 <211> 223
 <212> DNA
 <213> Escherichia coli

<400> 419
 ttcttttttt cgtcaacggg gtccagaatc attttattta cctcgggtac ttatgctgat 60
 ttttattatt atggggaagg tgttatttat gagtttcatt tatgccgtaa cgacaatgaa 120
 ctcgggaatt agtataagca gcgcgagaat aataatcatt gtgcaaatgc taatttaatt 180
 aatactatatt aaatattatt ttgagcatat gcacataagg ttg 223

<210> 420
 <211> 212
 <212> DNA
 <213> Escherichia coli

<400> 420
 aatagcgggt atgcacgcct ttcttttttt cgtcaacggg gtccagaatc attttattta 60
 cctcgggtac ttatgctgat ttttattatt atggggaagg tgttatttat gagtttcatt 120
 tatgccgtaa cgmcaatgaa ctcgggaatt agtataagca gcgcgagaat aataatcatt 180
 gtgcaaatgc taatttaatt aatactatatt aa 212

<210> 421

<211> 438
 <212> DNA
 <213> Escherichia coli

<400> 421
 ccctgtaaat tatcgcccgt ggcataaaaa ctgcggtccaa acgcccgtctt tgccagcagc 60
 caggccataa atgccaccag aattatcgtc aaccaaccaa ttgctgaaac gccaaagcagc 120
 agcggggcgg agagctgttt cagttcggcg ggtaaccctt caatccattt gccgccagtc 180
 cacagcaaca tgatgcctct gtacaaccct aacgtgccaa ggggtggcaac aatggcaggg 240
 atcttttagcc acgcgaccag gacaccgttg aaaaatcccg cgagcaaacc aagcagtaaa 300
 gtcgcgacac aagcaacagg tagtgaatat cctgcgttca gtaacatccc caacagcacc 360
 gcgcacattc cgggtaatcg aaccccactt gaaacatcaa tattgsgsgt aagcattwcc 420
 aagcgttcgs gcccatkg 438

<210> 422
 <211> 682
 <212> DNA
 <213> Escherichia coli

<400> 422
 aattcccggg gatccgtcga ccgtgcgctt ccggttggtg caacccgcga aatggcgcg 60
 cggtaaagtat ggcgggggta ttctttcccc gttgaggaca ccgggttgct aggttgacca 120
 tacgcttaag tgacaacccc gctgcaacgc cctctgttat caattttctg gtgacgtttg 180
 gcggtatcag ttttactccg tgactgctct gccgcccttt ttaaagtga ttttgtgatg 240
 ttgtgaatgc ggctgagcgc acgcggaaca gttaaaacca aaaacagtgt tatgggtgga 300
 ttctctgtat ccggcggtta ttgttaactg gttaacgtca cctggaggca ccaggcactg 360
 catcacaaaa ttcatgtgtg aggacgcgat tatcagtaac ccagtattta acgttaatac 420
 gtctgaaggt tgttttgaaa ttggtgtcac atcagtaac ccagtattta ctgaagatgc 480
 cattaacaag agaaaaacaag aacgggagct attaaataaa atatgcattg tttcaatgct 540
 ggctcgttta cgtctgatgc caaaaggatg tgcacaatga attcagcatt tgtgcttgtt 600
 ctgacagttt ttcttggttc cggagagcca gttgatattg cagtcagtgt tcacaggaca 660
 atgcaggagt gatgactgca gc 682

<210> 423
 <211> 600
 <212> DNA
 <213> Escherichia coli

<400> 423
 ggggatccga ttgtgactgc tctgccgccc tttttaaagt gaattttgtg atgtggtgaa 60
 tgcggctgag cgcacgcgga acagttaaaa caaaaacag tgttatgggt ggattctctg 120
 tatccggcgt taattgttaa ctggttaacg tcacctggag gcaccaggca ctgcatcaca 180
 aaattcattg ttgaggacgc gataatgaaa acgttattac caaacgttaa tacgtctgaa 240
 gggtgttttg aaattgggtg cactatcagt aacccagtat ttactgaaga tgccattaac 300
 aagagaaaaa aagaacggga gctattaaat aaaatatgca ttgtttcaat gctggctcgt 360
 ttacgtctga tgccaaaagg atgtgcacaa tgaattcagc atttgtgctt gttctgacag 420
 tttttcttgt ttccggagag ccagttgata ttgcagtcag tgttcacagg acaatgcagg 480
 agtgtatgac tgcagcaacc gaacagaaaa ttcccgttaa ctgttaccgg gtcgataaag 540
 ttattcacca ggataatatc gaaatcccgg caggtcttta aacagttccg taataaataa 600

<210> 424
 <211> 100
 <212> DNA
 <213> Escherichia coli

<400> 424
 gggatccagc aagaagatgc ggttgtagcg tcatcacgca gatgcgcaaa gctactcagc 60

aactgacctt tcttcgcaat aagcacgcca ttagcgtcac 100

<210> 425

<211> 465

<212> DNA

<213> Escherichia coli

<400> 425

tcgcgtgttt	accttcaaca	tcggtaactt	tctggcggat	agtttcacgg	taagcaacct	60
gcggtttacc	tacgttcgct	tcaacgttga	attcacgctt	catacggcca	acgatgatgt	120
cgaggtgcag	ttcgcccata	ccgcgatga	tggctctggt	agattcttcg	tcagtcata	180
cacggaaaga	cggttcttct	ttagccagac	ggccagagc	cagaccatt	ttttcctggt	240
cagctttggt	tttcggttca	actgcgatgg	agattaccgg	ctcagggat	tccatacgtt	300
ccagaatgat	cggcgcaccc	gggtcacaca	gggtgtcacc	agtggttacg	tctttcagac	360
cgatagcagc	agcgatgtcg	cccgcgcgaa	cttctttgat	ctcttcacgt	ttgtagcggt	420
gcattctgaac	gatacgaccg	aaacgctcac	gtgcagcttt	cacgg		465

<210> 426

<211> 653

<212> DNA

<213> Escherichia coli

<220>

<221> misc_feature

<222> (1)...(653)

<223> n = A,T,C or G

<400> 426

tgatcggctc	aagcagaact	ggtttcgctt	tcttaaagcc	ttcttttaaag	gcgatagaag	60
cagccagttt	aaacgccagt	tcagaggagt	caacgtcatg	gtaagaaccg	aagtgcagac	120
gaatacccat	gtctactacc	gggtagcctg	ccagcggacc	tgctttcagc	tgttcctgga	180
tacctttatc	aacggccggg	atgtattcgc	cagggattac	accaccttta	atgtcgttga	240
tgaactcgta	gcctttcggg	tttgaacccg	gctccagcgg	gtacatgtcg	ataacaacat	300
gaccatactg	accacgacca	ccagactggt	tcgcgtgttt	accttcaaca	tcggtaactt	360
tctggcggat	agtttcacgg	taagcaacct	gcggtttacc	tacgttcgct	tcaacgttga	420
attcacgctt	catacggcca	acgatgatgt	cgaggtgcag	ttcgccatac	ccgcgatgat	480
ggctgggtag	attcttcgtc	agtccataca	cggnaagacg	ggtcttnttt	agccagacgg	540
gccagagnca	gaccattttt	tttctggcag	ctttggnntc	ggtcaactgc	gatggaaata	600
cccggctcaa	ggaattcata	cgtttcanaa	tgatcggggc	attccgggtc	aca	653

<210> 427

<211> 268

<212> DNA

<213> Escherichia coli

<400> 427

ctttcttaaa	gccttcttta	aaggcgatag	aagcagccag	tttaaaccgc	agttcagagg	60
agtcaacgtc	atggtaagaa	ccgaagtgc	gacgaatacc	catgtctact	accgggtagc	120
ctgccagcgg	acctgctttc	agctgttcct	ggataccttt	atcaacggcc	gggatgtatt	180
cgccagggat	tacaccacct	ttaatgtcgt	tgatgaactc	gtagcctttc	gggtttgaac	240
ccggtccag	cggttacatg	tcgataac				268

<210> 428

<211> 330

<212> DNA

<213> Escherichia coli

<400> 428
 gttttgggga gatgtaagg ctaatctgaa tggctgcatt ccttgtttaa ggaaaaacga 60
 atgactgatt gccgatacct gattaaacgg gtcatacaaaa tcatcattgc tgttttacag 120
 ctgacccctt tggtctttata acacaaggaa acgtacttaa ggtgcgtccg gtgaaccagt 180
 cggacgcacc ttttaataact ataaataaagt gtctgggcag atactatata aattaactta 240
 gtgaatgatt atgctaattgt catcaattaa ataaatataa tggcgtaag gcttcccagt 300
 aatataatta atactctact tccagagtag 330

<210> 429
 <211> 465
 <212> DNA
 <213> Escherichia coli

<400> 429
 gttttgggga gatgtaagg ctaatctgaa tggctgcatt ccttgtttaa ggaaaaacga 60
 atgactgatt gccgatacct gattaaacgg gtcatacaaaa tcatcattgc tgttttacag 120
 ctgacccctt tggtctttata acacaaggaa acgtacttaa ggtgcgtccg gtgaaccagt 180
 cggacgcacc ttttaataact ataaataaagt gtctgggcag atactatata aattaactta 240
 gtgaatgatt atgctaattgt catcaattaa ataaatataa tggcgtaag gcttcccagt 300
 aatataatta atactctact tccagagtag aatattaaat tttatccgcg tgggtgcatca 360
 gcacaaattt atcccacaac tggtcttctg tctcgacatg cgccgatct ttcacaatag 420
 tattggggat cgggcacacc ttctggcagg ttggtgtctc gtagt 465

<210> 430
 <211> 379
 <212> DNA
 <213> Escherichia coli

<400> 430
 aatctgaatg gctgcattcc ttgtttaagg aaaaacgaat gactgattgc cgatacctga 60
 ttaaacgggt catcaaaatc atcattgctg ttttacagct gatccttctg ttcttataac 120
 acaaggaaac gtacttaagg tgcgtccggt gaaccagtcg gacgcacctt taataactat 180
 aaataaagtgt ctgggcagat actatataaa ttaacttagt gaatgattat gctaattgtca 240
 tcaattaaat aaatataatg gcgttaaggc ttcccagtaa tataattaat actctacttc 300
 cagagtagaa tattaaattt tatccgcgtg gtgcatcagc acaaatttat cccacaactg 360
 ttcttctgtc tcgacatgc 379

<210> 431
 <211> 443
 <212> DNA
 <213> Escherichia coli

<400> 431
 aagatgatgt gatgagaaa tcaatttgaa taagacaata ttaagagcta aaaaaatgtc 60
 aaaaaacact aaatcaaaaa ataattggcat tagaaaaat atgacgaaaa cggaggtgaa 120
 attagtttat ttcaaatgag gaaaatctcc cggcgaaaaa accgggagat gaaagtgtga 180
 tgggtatcaa ataaacaaca gaggagaaat ttttaacgca gccattcagg caaatcgttt 240
 aatcccattg cctggcggat aagttgcggc ttaacgccag gaagcgtgtc ggccagtttc 300
 aaaccaatat cacgcagcag ttttttcgcc ggattggtac cggaacacag atcgcggaat 360
 ccctgcatac cagccagcat caacgccgca ctgtgcttgc ggctacgctc atagcgacgc 420
 agataaatgt actgcccgat gtc 443

<210> 432
 <211> 638
 <212> DNA
 <213> Escherichia coli

<400> 432
caggggggttt gttgtgaggca atgatgcatt taagttatcg tctgcagata gaggagatat 60
tacaataaac aacgaatcag ggcatttgat agtcaatacc gcaattctat caggagatat 120
agtcactcta agaggaggag aaattagggtt ggtattatag cttgtgcgcg ccatgatttg 180
cgcgcaattt aaacttagtg ctttacatcg ctattgtctt gatttctttg aattatttta 240
taaattaaaa aaacgactgt tatgtataag caaagggtccg aacgaaaaat acattccaaa 300
taaagtcttg cttaaatctc tatatccttc cccgaaaaat gacacataaa attgagatat 360
tccaaaaaga gatactacaa ataaagatgc ctttatttta ttatttctaa taaaaataga 420
agcaataaaa aataataaca atgatataaa tctaattgtt tttaatatat tgtcttttat 480
gttagtaata gtcgttagta tgtttgattc tccatatatt acgtgtagtt ttttatatac 540
atggaaataa ttttctttat actgagacat cacaccatca tcaaattggaa gtttgaagat 600
ggtgcttggt ttgctaacca ataaaaagag tgcattcg 638

<210> 433

<211> 299

<212> DNA

<213> Escherichia coli

<400> 433
ctttacctgg catgatccac ttcgccagaa taccggcaat aagcccaaaa ataatccatg 60
acagaatgcc cattgtttcc tcacttatct gttttgcatt agcggggttag tcgctgataa 120
aaagcatagc acaacatcgg gagggcaaga tttgtgacga gcatacaggga gggtttttttg 180
cgatggcgca gaaattgcgc catcaacgat cagtgataat taccaaccac aaacatcatg 240
ttcgttttcc gtgtcataag aacgtacggt attcaccaga tcttttatca cttcagccg 299

<210> 434

<211> 388

<212> DNA

<213> Escherichia coli

<400> 434
gaaaaaggag gcaatatcgg gtaaaggcat tagcccgacg aatacgtcgg gctacaaata 60
ttattgtgct gcagggtgtt tagcgggttg ttgatccaca ggttctaact ggaagaccac 120
atcgacctga tcatcaaact gaatagcggc ctgctcgtaa gtttcctggg cggacaccgg 180
cgcggcatcg gctttcatca tccgcaccat tgggctgggc tgatagttag aaacatggta 240
gcgcacgcta tataccggcc ccagtttacg atgaaagccg ttcgccagtt cctgcgcctg 300
atgaatcgcg ttatcaatcg ctgccttacg cgctttgtct ttataggcat ccggctgcgc 360
cacgccagc gacacagaac gaattccc 388

<210> 435

<211> 351

<212> DNA

<213> Escherichia coli

<400> 435
ctatccttga tgaaaccgcg agcaaagata ggtgattacg tcatggtttt acagaaaatt 60
acagaaaaag gaggcaatat cgggttaaagg cattagcccg acgaatacgt cgggctacaa 120
atattattgt gctgcagggtg ttttagcggg ttgttgatcc acaggttcta actggaagac 180
cacatcgacc tgatcatcaa actgaatagc ggctgctcg taagtttcct ggcgggacac 240
cggcgcgga tcggctttca tcatccgcac cattgggctg ggctgatagt tggaaacatg 300
gtagcgcacg ctatataccg gccccagttt acgatgaaag ccgttcgcca g 351

<210> 436

<211> 762

<212> DNA

<213> Escherichia coli

```

<220>
<221> misc_feature
<222> (1)...(762)
<223> n = A,T,C or G

<400> 436
aattatgaaa cactgtcttg aatcgtctga atgacgggca catttgcgag cacgcatcca      60
gtaataacac aggaaactat tttatctacg cgttagcgat agactgcttg catggcgaaa      120
ggaggtaagc cgacgatttc agcgggacgc tgaaacggga aagcccctcc cgaggaaggg      180
gccataaata aggaaagggg catgatgaag ctactcatca tcgtgggtgct cttagtcata      240
agcttccccg cttactaaga ctaccagggc gggggaaacc ccgctctacc ctcaactctg      300
aaagtatgcc ttcacgataa gattgtcaat ccgcaggctt tgtagtctgc gatcctgcc      360
gcaaatattc tttgcgagtc gttacgcaat aatcacagag gaaactatct tattcacgcg      420
ttagcgatag actgcattca gggcgaaagg aggtaagccg atgatttcag cgggacgctg      480
aaacgggaaa gcctctcccc gagaagaggg cttttaataa ggaaaggggt atgatgaagc      540
acgtcatcat actggtgata ctcttagtga ttagcttcca ggcttactaa gaacaccagg      600
gggaggggga aacctcttcc taaccctcac ttctgaaatt gggtgctatg acgctggcgt      660
tactgcttan cgctaccagt ttgtctgccc tggcggttgt aacgccagat cggtagccgt      720
ttggatattt taatgaaagc cgacaaatca atcancgtga cg                                762

<210> 437
<211> 292
<212> DNA
<213> Escherichia coli

<400> 437
cacatttgcg agcacgcatt cagtaataac acaggaaact attttatcta cgcgttagcg      60
atagactgct tgcattggcg aaggaggtaa gccgacgatt tcagcgggac gctgaaacgg      120
gaaagccctc cccgaggaag gggccataaa taaggaaagg gtcatgatga agctactcat      180
catcgtgggt ctcttagtca taagcttccc cgcttactaa gactaccagg gcgggggaaa      240
ccccgctcta ccctcactcc tgaaagtatg ccttcacgat aagattgtca at                                292

<210> 438
<211> 631
<212> DNA
<213> Escherichia coli

<400> 438
atttacactt tttacgaaat catgggatca ctaacaaaat atcgcttgct agttatattg      60
tatggcagga aagatatgct actgatatta cagatcccca aagtggagag tttatgacca      120
ttaaaaataa gatgttgctg ggtgcgcttt tgctgggttac cagtgccgcc tgggccgcac      180
cagccaccgc gggttcgacc aatacctcgg gaatttctaa gtatgagtta agtagtttca      240
ttgctgactt taagcatttc aaaccagggg acaccgtacc agaaatgtac cgtaccgatg      300
agtacaacat taagcagtgg cagttgcgta acctgcccgc gcctgatgcc gggacgcact      360
ggacctatat gggtagcgcg tacgtgttga tcagcgacac cgacggtaaa atcattaaag      420
cctacgacgg tgagattttt tatcatcgct aaaaaaagcc ccctcatcat gagggggaaa      480
tgcagacacc ttgttatttt ttattattag ccacttgctc gtcttgcttg ttattagtcg      540
tatttcacgt tgattaatgc ggttgccctc agtgccgcag atttaacttt gtttgtatcg      600
tagacgtagt aactggctgt tatcggaatt g                                631

<210> 439
<211> 566
<212> DNA
<213> Escherichia coli

<400> 439
tatggcagga aagatatgct actgatatta cagatcccca aagtggagag tttatgacca      60

```

ttaaaaataa	gatgttgctg	ggtgcgcttt	tgctgggttac	cagtgccgcc	tgggccgcac	120
cagccaccgc	gggttcgacc	aatacctcgg	gaattttctaa	gtatgagtta	agtagtttca	180
ttgctgactt	taagcatttc	aaaccagggg	acaccgtacc	agaaatgtac	cgtaccgatg	240
agtacaacat	taagcagtgg	cagttgcgta	acctgcccgc	gcctgatgcc	gggacgcaact	300
ggacctatat	gggtggcgcg	tacgtgttga	tcagcgacac	cgacggtaaa	atcattaaag	360
cctacgacgg	tgagattttt	tatcatcgct	aaaaaaaagcc	ccctcatcat	gagggggaaa	420
tgacagaccc	ttgttatttt	ttattattag	ccacttgctc	gtcttgcttg	ttattagtcg	480
tatttcacgt	tgattaatgc	ggttgccctcc	agtgcgccag	atttaacttt	gtttgtatcg	540
tagacgtagt	aactggctgt	atcgaa				566

<210> 440

<211> 339

<212> DNA

<213> Escherichia coli

<400> 440

cgtattcaca	tccttttgat	tggtgataac	atgcgaatcg	gtattatttt	tccggttgta	60
atcttcatta	cagcggtcgt	attttttagca	tggtttttta	ttggcggcta	tgctgccccg	120
ggagcataaa	gatgaaaaaa	acaacgatta	ttatgatggg	tgtggcgatt	attgtcgtac	180
tcggcactga	gctgggatgg	tggtaacgtc	acctctaaaa	aatagcaaag	gctgcctgtg	240
tgacgccttt	gtgcaattta	agcgtaact	tttaatcttc	ctgtagataa	atagcacgac	300
aatcgacca	ataacggcaa	ccacgaagct	gccaaaatt			339

<210> 441

<211> 376

<212> DNA

<213> Escherichia coli

<400> 441

catgaatatt	taaaaaggaa	aacgacatga	aaccgaagca	cagaatcaac	attctccaat	60
cataaaatat	ttccgtggag	cattttatta	ttgaatatag	aggtttaact	ccggtaaaaa	120
acaaagaagc	attgaatgca	gggaaaaata	atatggccat	aaaaaacatc	gaaagaaact	180
cttttaattt	aacatgtaaa	cgcattggtta	atcctcatat	cacgggtgga	gtgttaagaa	240
catacataaa	tgagagtcag	ttttcccttt	tccatttatc	aagttcctgt	tgccgtttta	300
gtccatctct	aattgcatat	tttaattttt	ctgataaatg	gcattgagca	tcgatttcat	360
ttaaaacaac	tgtaca					376

<210> 442

<211> 446

<212> DNA

<213> Escherichia coli

<400> 442

ttacgatagc	tattagtaaa	aatataagag	ttagctgtat	tgttatgtct	gtggcgaaat	60
tgactacctt	cgtttttttg	attaagaatg	attttattat	cgtaagttaa	attacatgaa	120
tatttaaaaa	ggaaaacgac	atgaaaccga	agcacagaat	caacattctc	caatcataaa	180
atatttccgt	ggagcatttt	attattgaat	atagagggtt	aactccggta	aaaaacaaag	240
aagcattgaa	tcaggggaaa	aataatatgg	ccataaaaaa	catcgaaaga	aactctttta	300
atttaacatg	taaacgcatg	gttaatcctc	atatcacggg	tggagtgtta	agaacataca	360
taaatggagt	catgttttcc	cttttccatt	tatcaagttc	ctgttgccgt	tttagtccat	420
ctctaattgc	atattttta	at	ttttct			446

<210> 443

<211> 388

<212> DNA

<213> Escherichia coli

```

<220>
<221> misc_feature
<222> (1)...(388)
<223> n = A,T,C or G

<400> 443
tcaccccggt gccgattttc aggcatacctg atttaactta gcacccgcaa ctttaactaca      60
ggaaaacaaa gagataaatg tctaatacctg atgcaaatac agccgatttt ttaatcttta      120
cggactttta cccgcctggt ttattaattg cactgtatc cgggcgttcg cccgctttta      180
tcacaatagg ctgtgtagcc tgggcctggt tctctttcac ccgcgccaga gcggcagcaa      240
tcgcatcttt atctttggct gcaggttgaa cggctgcgct cttatgtcgt tcaaggcgag      300
ccgctttttc gcgtccaga cgagcctggc gcgcttcgaa acgcgctttg gcttctgcgg      360
cncgcttttc ttctgacga atagccgc                                     388

<210> 444
<211> 209
<212> DNA
<213> Escherichia coli

<400> 444
aattttaata acgctatctg cggataaagc agaatagggt gttaacccca gacataaacc      60
gaggaaaata atgttattgt atttcataat ctattgttcc ttagcgacag attgctgtct      120
gctggttcag taaggtagca ggagaaactt caggaagctt gtactcgaca atacagtttg      180
agtttttatc ttgccccat gaaacctgt                                     209

<210> 445
<211> 341
<212> DNA
<213> Escherichia coli

<400> 445
catcctcaat accgttaaata gcaacccgaa cccccgttgt ccttttgctg cattcactta      60
acgtaatctg aaaaggagcg gctggacttg tgctaccggt cgttggaat tgtctggcac      120
tgtttttttg gagatctacg gtaaaattaa gcgaatccga tgagactgtg cagccataat      180
cgaggacgcg cccgctaatt ttaataacgc tatctgcgga taaagcagaa taggtgggta      240
acccagaca taaaccgagg aaaataatgt tattgtattt cataatctat tgttccttag      300
cgacagattg ctgtctgctg gttcagtaag gtaccaggag a                                     341

<210> 446
<211> 697
<212> DNA
<213> Escherichia coli

<400> 446
agatttactg ccaattttccg gcagatcgga aagggttaam ccatattgat ccataagggt      60
acgaatcmcg ggctataaccg ccaggcatgg cttgagccat ggcattaaat tccgcaaatt      120
cgggcgctga ttcttccac gcggttattt tggcacacac cagatccagc aaggggtttt      180
caggatcggt gagcagcaga tgatctacca gttccagcgc ctgggtgtat tgttcctcgt      240
tctgaatacc cgccagaaaa ggtgccacag cagttagctt ttctcctgct tgcaagatgt      300
cggcaatcgc aatcattttt tccccttagt acgatgaaca gcggtaaaaga aatcgtattc      360
tttatgcgtc ataacttcac gtatgtagca cttttgcgat tcaaaaaaga ccattgctac      420
aacacgtaat tcattgcccc caacattgaa aacataatgc ttatccagat atttgaagtt      480
atccagagat gggaatactg cttttaatga ctacaggttt ttgaaatatc ccttagcaat      540
cgtgktcccc agagccacca actccgtttt atgttgccgg tatttttccg cagcatcttt      600
caatgctttt tgagttatca ggtgcattct tcatcacgtc cgtkgmcaaa ttggcaatat      660
gataacatcc gttgccagat tggcacggat gaattat                                     697

```

<210> 447
 <211> 215
 <212> DNA
 <213> Escherichia coli

<400> 447
 aattaataac ttttcgtttag gcagtttttg gtgtgagttg caagagggga gactactgaa 60
 taactcaagt ttataatcg aggggaaaat ggtgatggcg ttcatagcaa aacgccctca 120
 accataaagg tcgagggcgc ttaagatggt aaaaacccgc tatccgttaa aaaacaatgt 180
 tcaactaagg tcagtgcacat tgcgctaaaa aagcg 215

<210> 448
 <211> 395
 <212> DNA
 <213> Escherichia coli

<400> 448
 gcattattca tgagaaatgt gtatcgtaaa tcaactgaaa ttaacgcaac catttgttat 60
 ttaaggttta attatctgtg tgtgatattt tattgaatgt tttaaatatt gtttttattg 120
 gcattgctat aatattggtt atcatttgct gaatggattc agtcttaatg agtgggtttt 180
 taagggacag gcatagagta atgatacgta tgcataacca acatctttac tcattatgtc 240
 attgaatggt gacgctatgt gtttatgagg gagaggattt ttcagttgat ctggattggt 300
 aaattcatat aatgcgcctt tgctcatgaa tggatgccag tatgtagtgg gaaattataa 360
 atattgaaat agtccaacta cttctttatt accaa 395

<210> 449
 <211> 641
 <212> DNA
 <213> Escherichia coli

<220>
 <221> misc_feature
 <222> (1)...(641)
 <223> n = A,T,C or G

<400> 449
 ataatcaggt aagaaaaggt gcgcggagat taccgtgtgt tgcgatatat tttttagttt 60
 cgcgtagcaa tacatcagtg gcaataaaac gacatatcca gaaaaatata cactaagtga 120
 atgatatctt ccgatttatc ttaatcgttt atggataacg gcaaagggct tcgttttttc 180
 ctatacttat tcagcactca caaataaagg aacgccaatg aaaattatac tctgggctgt 240
 attgattatt ttcctgattg ggctactggt ggtgactggc gtattttaaga tgatatttta 300
 aaattaatta atgtcatcag gtccgaaaat aacgagaata tttcagtctc tcacctctgt 360
 gcgctcctgt catgtgcatt gcttcatata atcactggcg caaggagcgc cgcaggcgna 420
 gnntgcncgn cgnccacct naccccatgc cgaacttcag aantgaaaac nccntaacnc 480
 cgatngtcgg cggnggcctc cccatgcnan agtangggaa ntgccangcg ncnntataa 540
 cgaaaggctn attncaaaga ctgggccttn cntttatctg atgtttgtcg gagaacgctc 600
 tcctgagnan gacaaatncc gccgggagcg gatttgaacn t 641

<210> 450
 <211> 314
 <212> DNA
 <213> Escherichia coli

<220>
 <221> misc_feature
 <222> (1)...(314)
 <223> n = A,T,C or G

<400> 450
gaactacgag taagaatagc tncgaattcc cgtttatgga taacggcaaa gggcttcggt 60
ttttcctata cttattcagc actcacaaat aaaggaacgc caatgaaaat tatactctgg 120
gctgtattga ttattttcct gattgggcta ctgggtggtga ctggcggtatt taagatgata 180
ttttaaaatt aattaatgtc atcaggtccg aaaataacga gaatatttca gtctctcatc 240
ctgttgcgct cctgtcatgt gcattgcttc atataatcac tggcgcaagg agcgcgagg 300
gggntntnnt cttt 314

<210> 451
<211> 236
<212> DNA
<213> Escherichia coli

<400> 451
atatacacta agtgaatgat atcttccgat ttatcttaat cgtttatgga taacggcaaa 60
gggcttcggt tttcctata cttattcagc actcacaaat aaaggaacgc caatgaaaat 120
tatactctgg gctgtattga ttattttcct gattgggcta ctgggtggtga ctggcggtatt 180
taagatgata ttttaaaatt aattaatgtc atcaggtccg aaaataacga gaatat 236

<210> 452
<211> 418
<212> DNA
<213> Escherichia coli

<400> 452
cggagattac cgtgtgttgc gatataatctt ttagtttcgc gtggcaatac atcagtggca 60
ataaaacgac atatccagaa aaatatacac taagtgaatg atatcttccg atttatctta 120
atcgtttatg gataacggca aagggttccg ttttttccta tacttattca gcactcacia 180
ataaaggaac gccaatgaaa attatactct gggctgtatt gattattttc ctgattgggc 240
tactggtggt gactggcgta tttaagatga tatttttaaaa ttaattaatg tcatcaggtc 300
cgaaaataac gagaatattt cagtctctca tcctgttgcg ctctgtcat gtgcattgct 360
tcatataatc actggcgcaa ggagcgcgca gggggcggcc aatcgccgcc gccccctg 418

<210> 453
<211> 551
<212> DNA
<213> Escherichia coli

<400> 453
aacaatttgc ccatgcgctc ggtcatgcgc tgcacgccc ggccattttg sgcgtccccg 60
cgaccgccat tcgactgtta atgggcgaat cttcagtact ggtattaggt ggacaacgcg 120
cgctgcctaa acggctggaa gaagcggggt ttgcgtttcg ctggtacgat ttagaagagg 180
cgctggcgga tgcgttcgc tgatgtggtt tacagcaaac atccgccagt taactccccg 240
tgttacagga ttagtggctt tgcgcgataa gatcgtctgg tgaaagtcgg gtcaccatca 300
taactaactc tctgtctaaa cctctatcca gcctctctg agcaatacgc agggcttctt 360
cgtgtttgcc ctgcattgcg ccttcttcac gtaatctgtc agcaatggtc atcaagtttc 420
tccttttctt gtgggtgcgcg ttccgctatc tcaccaataa atgcacgaaa acgctgggca 480
tcccctgttt gtaatacgtg attaaacagg gcttttagct gtctgtcatt agtgktccct 540
gtaactagca g 551

<210> 454
<211> 93
<212> DNA
<213> Escherichia coli

<400> 454

tggcattctcg gtgtttgccga ttttcatgat atccagcccg ccggaaactt cttcccaaac	60
ggtttttgcg ttatccattg agtcacggaa ctg	93

<210> 455
 <211> 232
 <212> DNA
 <213> Escherichia coli

<400> 455	
cgtgccgaga tgatcctgta accatcatca gttgtgaagt agtgattcac gacttcaagg	60
cgcttttcaa aagggtatgt tggctttgac atattagggg ctattccatt tcatcgtcca	120
acaaaatggg tgcagtacat actcgttggg aatcaacaca ggaggctggg aatgccgcag	180
aaatatagat tactttcttt aatagtgatt tgtttcacgc ttttattttt ca	232

<210> 456
 <211> 713
 <212> DNA
 <213> Escherichia coli

<220>
 <221> misc_feature
 <222> (1)...(713)
 <223> n = A,T,C or G

<400> 456	
ttagnngatn naangcccac ancctcgang gatctaggag gtagaatagc ttcgaattcc	60
ccagcagagc gcggccttct tcgtcagatt tcgcagtagt ggtaatggta atatccaaac	120
cacgaacgcg gtcgacttta tcgtagtcca tttctgggaa gatgatctgc tcacggacac	180
ccatgctgta gttaccacga ccgtcgaaag acttagcgga caggccacgg aagtcacgga	240
tacgaggtac agcaatagt atcaggcgct caaagaactc ccacatgcgt tcgccacgca	300
gagttacttt acagccgatc ggatagccct gacggatttt gaagcctgca acagatttgc	360
gtgctttggg gatcagcggg ttttgaccgg agattgctgc caggctctgct gctgcgttat	420
ccagcagttt tttgtcagcg atcgcttcac caacacccat gttcaggggt atcttctcga	480
cccaggggac ttgcatgaca gaattgtagt taaactcagt catgagtttt ttaactactt	540
cgtctttgta gtaatcatgc agtttcgcca tcgtactact ccatgtcggg gaacgctctc	600
ctgagtagga caaatccgcc ggagccggat ttaacgttgc gaacaaccgn cccggagggg	660
tggnggcagg accccgccat aactggcagc attaaattaa gcagaaggcc atc	713

<210> 457
 <211> 292
 <212> DNA
 <213> Escherichia coli

<400> 457	
tgaacagcag agatacggcc agtgcgccca atgttttttg tcctttaaac ataacagagt	60
cctttaagga tatagaatag gggatatagct acgccagaat atcgtatttg attattgcta	120
gttttttagtt ttgcttaaaa atattgtagt ttttattaaa tgcaaaaacta aattattggt	180
atcatgaatt tgttgtagt tgaataaaa ataggggggt atagatagac gtcattttca	240
taggggtata aatgcgacta ccatgaagtt tttaattgaa agtattgggt tg	292

<210> 458
 <211> 282
 <212> DNA
 <213> Escherichia coli

<400> 458	
ttattaaatg caaaactaaa ttattgggtat catgaatttg ttgtatgatg aataaaatat	60

aggggggtat	agatagacgt	cattttcata	gggttataaa	tgcgactacc	atgaagtttt	120
taattgaaag	tattgggttg	ctgataattt	gagctgttct	attcttttta	aatatctata	180
taggtctgtt	aatggatttt	atttttacaa	ttttttgtgt	ttaggcatat	aaaaatcaac	240
ccgccatatg	aacggcgggt	taaaatattt	acaacttagc	aa		282

<210> 459

<211> 300

<212> DNA

<213> Escherichia coli

<400> 459

tctgcgttcc	gctaaaaggt	gcaaatgctc	aggacgtttgc	agcgtttttgc	gtgaccgctc	60
ggggaaggca	aaattgcctc	tgggaaagca	ttgcgcgggg	tccggcgctc	atcaacaatc	120
ggggggcagc	aaggggctga	aacgggaaag	cccctcccga	agaagggggc	ttgtataagg	180
aaagggttat	gatgaagctc	gtcatcatac	tgggttgtgt	gttactgtta	agtttcccga	240
cttactaaca	actcatcaga	ggggggagaa	atcctccctt	acccttggtc	ctttactcta	300

<210> 460

<211> 293

<212> DNA

<213> Escherichia coli

<400> 460

cgggggccgg	cgctcatcaa	caatcggggg	gcagcaaggg	gctgaaacgg	gaaagcccct	60
cccgaagaag	gggccttgta	taaggaaagg	gttatgatga	agctcgtcat	catactggtt	120
gtgttggtac	tgtaaagttt	cccgaactac	taacaactca	tcagaggggg	gagaaatcct	180
cccttaccct	tgttccctta	ctctagggtg	aaaaaacaac	agcgtcaata	ggcctgccat	240
gtacgaagcg	agatctgtga	accgctttcc	ggttagcctt	ttttatcctg	ttg	293

<210> 461

<211> 359

<212> DNA

<213> Escherichia coli

<400> 461

caacacagga	ggctgggaat	gccgcagaaa	tatagattac	tttctttaat	agtgatttgt	60
ttcacgcttt	tattttttcac	ctggatgata	agagattcac	tgtgtgaatt	gcatattaaa	120
caggagagtt	atgagctggc	ggcgttttta	gcctgcaa	tgaaagagta	agagtcttcg	180
gcgggaaatt	attcccgcct	tacttacggc	gttgcgcat	ctcattgcac	ccaaatttat	240
tcttcacaaa	aataataata	gattttatta	cgcgatcgat	tattttattc	ctgaaaacaa	300
ataaaaaaat	ccccgccaaa	tggcagggat	cttagattct	gtgcttttaa	gcagagatt	359

<210> 462

<211> 673

<212> DNA

<213> Escherichia coli

<400> 462

gcaacccatg	tcctgacctg	ggttcggggg	acaccaaaaac	gtgccgagat	gatcctgtaa	60
ccatcatcag	ttgtgaagta	gtgattcacg	acttcaaggc	gcttttcaaa	agggtatttt	120
ggctttgaca	tattaggggc	tattccat	catcgtccaa	caaaatgggt	gcagtacata	180
ctcgttgga	atcaacacag	gaggctggga	atgccgcaga	aatatagatt	actttcttta	240
atagtgat	gtttcacgct	tttatttttc	acctggatga	taagagattc	actgtgtgaa	300
ttgcatatta	aacaggagag	ttatgagctg	gcggcggttt	tagcctgcaa	attgaaagag	360
taagagtctt	cggcgggaaa	ttattcccgc	cttacttacg	gcgttgcgca	ttctcattgc	420
acccaaattt	attcttcaca	aaaataataa	tagattttat	tacgcgatcg	attattttatt	480
tcctgaaaac	aaataaaaaa	atccccgcc	aatggcaggg	atcttagatt	ctgtgctttt	540

aagcagagaa	tacaggctgg	ttacgttacc	agctgccggg	ccttttagcgc	cgctttcgat	600
ggtgaaggac	actttctgac	cttcgtccag	agatttgtaa	ccatcgttct	ggatagcaga	660
gaagtgtacg	aac					673

<210> 463
 <211> 630
 <212> DNA
 <213> Escherichia coli

<400> 463						
tggtggcatt	ggttgctgga	gagagaaaac	ccccgcacgt	tgcaggatatg	cacctgacaa	60
caccacgggg	gctaattctt	actctagacc	actcaagaat	agccgcgaaa	cgttgtcatt	120
acaacacagg	cggctatatg	acgttcgcag	agctgggcat	ggccttcttg	catgatttag	180
cggctccggt	cattgctggc	attcttgcca	gtatgatcgt	gaactggctg	aacaagcgga	240
agtaacgtgt	catgcgggcg	tcaggctgcc	gtaatggcaa	tttgcgcccg	gaccaggccg	300
caggggggaa	actctgcggc	ctttttcgtt	cttactgcgg	gtaaggcacc	cagtcgcccgc	360
cgttcaggcg	aacgtacggt	ttatcctggt	attgaataac	tactgcattt	gagttctcgg	420
agaccggtgc	tgtttggtgc	aaccactggt	tgagtttttt	ccagtcaaca	ttgtcttcgg	480
tgaaaatcct	gccatcgaga	acgcgaacca	ccagatcgga	gatagccagg	aagctgctcg	540
gttgttcgat	gacaatcggt	gccccctgat	gcggtgcctt	catgccgaag	aatttcaccc	600
caacggggac	gtcgggtgata	gacgggctag				630

<210> 464
 <211> 391
 <212> DNA
 <213> Escherichia coli

<400> 464						
ctcaggctgc	tgattgtttt	tttgtgcaat	ggcgcggtat	tagcgtcgtt	gctgtcgatg	60
gagagaatca	taaactgtgt	gaatgatgat	tgttagcaag	gaaaactgtc	aaaaatcttc	120
aaaaaatttg	agggataagg	ccggaatggc	tccggccaga	gggaagttaa	ccgcgaagct	180
gttgctgctt	gagggtcgtt	ttaaccagac	gccaggcgct	ccatacgcca	aaaccgcgtc	240
tggcccagcg	gaccagcata	ttaggatggc	gaatcgtcca	gatcgccatc	acgctactgc	300
caaccagcgc	ccaggagcgc	agacttagca	gcatattcca	gcgacgatcg	taagcgccctg	360
ttgtctccag	ccattcacga	cgactggcgg	a			391

<210> 465
 <211> 625
 <212> DNA
 <213> Escherichia coli

<400> 465						
aacacaccac	accataaacg	gaggcaaata	atgctgggta	atatgaatgt	tttaatggcc	60
gtactgggaa	taattttatt	ttctggtttt	ctggccgcgt	atttcagcca	caaatgggat	120
gactaatgaa	cggagataat	ccctcaccta	accggcccct	tgttacagtt	gtgtacaagg	180
ggcctgattt	ttatgacggc	gaaaaaaaaa	cgcagtaaaa	ccggcggtga	atgcttgcac	240
ggatagattt	gtgttttgct	tttacgctaa	caggcatttt	cctgcactga	taacgaatcg	300
ttgacacagt	agcatcagtt	ttctcaatga	atgttaaacc	gagcttaaacc	tcgggttaatc	360
acattttgtt	cgtcaataaa	catgcagcga	tttcttccgg	tttgcttacc	ctcatacatt	420
gcccgggtcc	ctcttccaat	gaccacatcc	agaggctcct	caggaaatgc	gcgactcaca	480
cctgctgtca	cggtaatgtt	gatatgccct	tcagaatgtg	tgatggcatg	gttatcgact	540
aactggcaaa	ttctgacacc	tgcacgacat	gcttcttcat	cattagccgc	tttgacaata	600
atgataaatt	cttcgcccc	gtagc				625

<210> 466
 <211> 623
 <212> DNA

<213> Escherichia coli

<400> 466

tgcttttgaa	tatgtgctcg	caatcttgag	aaggaaatgg	cgaccacgaa	agaaaaggca	60
aaaacgataa	tctgaaagag	ccaaggtatt	tcagtataag	cattgaatgc	gacagtaaac	120
tctttcggta	tcagccagag	agtgagacca	aaaatgataa	tcgtatacat	aagtctttcg	180
agtggtctcg	tagcaaaaag	tttcaacaat	ggagtaaata	catccaacat	atcaataact	240
ctcaactgta	agggatttga	aatgttaaca	caagctctcg	ctgtaggggt	atagccgaga	300
ccaccgaagc	ccggagggtg	tgaaataaaa	ccgggcacaa	cacgaaggcg	catttccgat	360
atccataaag	agtcgggtctt	gtctgttaaa	tttaaatggt	gggagtgcgc	ctccggttgt	420
aaataacgac	attgctgtgt	gtagtctctg	cggcatcagt	ttttttcttg	aagttcggct	480
gatgtccgcc	cttttttaaag	tgaattttgt	gatgcggtga	atgcggctaa	gcgcacgtgg	540
cacagttaaa	agtcattgta	gtccttattg	gtttgggtgg	gaaagccgac	tgtattgtt	600
aactggttgc	agtcacctgg	agg				623

<210> 467

<211> 234

<212> DNA

<213> Escherichia coli

<400> 467

tgtttactta	caagagattc	atctttgtat	aaataaagat	aagtaattac	gcataaaaca	60
acaatgatta	taatagcaaa	aataaatatt	atcatctttg	atagattact	tgagatagcc	120
agcatcttgt	aaagccttta	tcgttttttt	atgctctgga	ttaatataat	cactacatct	180
atctgagcaa	tctgttggtg	atggacatgt	caacctatgg	tcatttacag	ccaa	234

<210> 468

<211> 529

<212> DNA

<213> Escherichia coli

<400> 468

attagctatt	tcggctaaaa	tagagactac	atgtcttcgg	tccatctcac	ttaaggagtg	60
tagttccggt	gtaagttttt	ccatagcttg	cactgctaaa	tttcaacaa	ggaattttct	120
gctggtaatc	tctaaaaaga	tggcatgggt	tacaatgatt	tttgtttcct	tttgattatt	180
atgaacaact	gtccatgatt	tcgtttaaga	atgaagagaa	atcactaaac	gaactgaata	240
tattttctgt	gccaatatta	tctctaattt	caaaaaagtt	acttttaatg	tcggtaatga	300
ctccaactta	ttgatagtgt	tttatgttca	gataatgcc	gatgactttg	tcatgcagct	360
ccaccgattt	tgagaacgac	agcgacttcc	gtcccagccg	tgccagggtg	tgccctcagat	420
tcaggttatg	ccgctcaatt	cgctgcgtat	atcgcttttc	cttatcagtt	cgttgatgtc	480
agtggttttg	accacgaggg	agcttcacgc	gagttattga	aaacctga		529

<210> 469

<211> 261

<212> DNA

<213> Escherichia coli

<400> 469

caaagaacct	tcaacatgaa	aaatatccat	ttgtttgcaa	aaaaagatta	ttaggaagga	60
aattaatgca	attatcgaaa	attcaaaaaa	tatccaaaaa	tagtatactt	tattccagaa	120
gagttcaata	taatgtttgt	cttcaatttt	tcttacttca	gggtaataata	gattgctcat	180
tacattgtga	gcttcatctt	tatttaattt	tctgttgact	ccagctctcc	gtgataacgg	240
ttttataatt	agatgcttat	c				261

<210> 470

<211> 98

<212> DNA

<213> Escherichia coli

<400> 470

agatgattgc	cgggaacttg	ttagcggcac	gcaggcggcg	gctcgcaccc	ttaccctgct	60
ctttacgtac	ttctgcgttg	atagtaaaca	tttctttt			98

<210> 471

<211> 259

<212> DNA

<213> Escherichia coli

<400> 471

agcgcgaacg	aagtcgatgt	gctgcagctt	cggttttgtac	gggtgacgct	gtacgtcctg	60
agctttaact	ttgattttctt	taccgtcaac	aacgatggtc	agaacttcgc	tgtagaattc	120
agcttttagct	tgcatgttca	tgactttgtc	gtgatccagc	tcgatagcca	gcggcgcttc	180
tttgccaccg	tagatgattg	ccgggaactt	gttagcggca	cgcaggcggc	ggctcgcacc	240
cttaccctgc	tctttacgt					259

<210> 472

<211> 94

<212> DNA

<213> Escherichia coli

<400> 472

aaaaacggcg	taaagaaagg	atgcaaacat	gttaataaaa	actcaaattg	atcccacgta	60
tatattacgc	cgcaaaatcc	ttacaataaa	cagg			94

<210> 473

<211> 174

<212> DNA

<213> Escherichia coli

<400> 473

ttaattatta	aaatagtgtg	acgcgattat	gtgggttatgg	gggtaaacat	taaataaacc	60
agcggggagg	ggaggtaaag	tgaaaaaata	aaaagcggat	aatcttaata	agcaggccgg	120
acagcatcgc	catccggcac	tgatacgagg	tttatttcag	ctcatcaacc	atcg	174

<210> 474

<211> 138

<212> DNA

<213> Escherichia coli

<400> 474

ctgtaaaaac	gtcaaaaaga	gtgtttttatc	aacagaagaa	tggaggctctg	acagatagta	60
gtaatgcaaa	aaaatggaga	cttaagttga	atgaacggga	gtaaagcgaa	aagactatag	120
agtgaaggag	aaattccc					138

<210> 475

<211> 191

<212> DNA

<213> Escherichia coli

<400> 475

tttgttggct	taatattcta	ttgttatctt	tatttataga	tgtttatatt	gcatgagggtg	60
gtttttggag	agaagaatga	ggaagatgcg	tcgagccaca	gaaacgtag	ctttacatat	120
agcggagggtg	atgtgaaatt	aatttacaat	agaaataatt	tacatatcaa	acagtttagat	180
gctttttgtc	g					191

<210> 476
 <211> 245
 <212> DNA
 <213> Escherichia coli

<400> 476
 cggccatttta tacaggaaaa gcctatgtca gaacgtaaaa actcaaaatc acgccgtaat 60
 tatctcggtta aatgttcctg cccaaactgc acccaagagt cagaacacag tttttcaaga 120
 gtacaaaaag gtgccctttt gatctgccct cattgcaaca aagtattcca gacaaatctt 180
 aaagctgtag cctgattgat tttattagta acaagtattt tttatatttt aataatatat 240
 ttaaa 245

<210> 477
 <211> 319
 <212> DNA
 <213> Escherichia coli

<400> 477
 aaatthttcag gtaccttgtc accatacttt tttttctgag cattaatgat atthttgagct 60
 tcttgaggat ctttaactcc ccacatttgg tggaaagtat tcatattaaa aggaagggtt 120
 aataatthttgt ctttataaat cgccagtggg gaattagtaa aacgattaaa ttctactaaa 180
 tcattaacgt aatcccatat atatttatca ttggtatgaa aaatatgtgc accatattta 240
 tgaatctgga taccctcaca gtectctgtg tacgcatttc caccgatatg atthttctttc 300
 tcaatcacta aaactthttt 319

<210> 478
 <211> 149
 <212> DNA
 <213> Escherichia coli

<400> 478
 gcagtgatcg aagcgatgac gaagtgtatg gaaaaatcag aaaaactcag caaatcctga 60
 tgacttttcgc cggacgtcag gccgccactt cgggtgcggtt acgtccggtt ttctttgctt 120
 tgtaaagcgc caaatctgcc gatttcaac 149

<210> 479
 <211> 330
 <212> DNA
 <213> Escherichia coli

<400> 479
 gaaagtatct tcgttattga catcactgga aaatataact tgctthttcat tattaaactc 60
 gaagcgcgta ccgtatctgg acaaacattt atcgagctta ccaaattcct gaagagggtt 120
 aactacagat aacatttgcg cgtcctttgc agtaatgccc gtcaaactcct tgacgggcat 180
 tatttagatt aaattaccag tatttcttcg gagtgaagaa tattaccagg tatatttaac 240
 acccacgttc gcggaccagt cttgatctac gtcaccacca ccgaggtagt tagcatcggt 300
 ataggcgctg aagttcttgg tgaagctaaa 330

<210> 480
 <211> 191
 <212> DNA
 <213> Escherichia coli

<400> 480
 tttttttcca gcaacggagc aaaaggthttg cccttgtgca gctcagggtt aaccactthta 60
 actacgtggc gacgaccggg agatgtcggg ttacatttaa caactgccat tgtattactc 120

ctccgactta ctcagcgccg ccaacgaagt ccagattctg gccttctttc agggtgacgt	180
aagctttttt c	191

<210> 481
 <211> 188
 <212> DNA
 <213> Escherichia coli

<400> 481	
tccctttaac taccaggggtg ttaacgactt cgacttcgac ttcaaacagt ttctgcacag	60
cagctttgat ttctgctttg gtcgcgtctt tagcaacttt gactacgatg gtgttgatt	120
tttccatcgc agtagacgct ttttcagaaa cgtgcgggtgc acgcagcacc ttcagcagac	180
gttcttca	188

<210> 482
 <211> 172
 <212> DNA
 <213> Escherichia coli

<400> 482	
caaaggcgaa caaagcctgt gaagcccgaa ggctccacag acagtgcctac ttgaaggcct	60
tactgtttct tcttaggagc gagcaccatg atcatctggc ggccttcgat cttcgttggg	120
aaggattcga ccaactgccag ttcttgcaaa tcgtctttca cgcgattaag ca	172

<210> 483
 <211> 266
 <212> DNA
 <213> Escherichia coli

<400> 483	
tggagaaaac ggggtgattga taaagcaatc atcgttctag gggcgttaat tgcgctgctg	60
gaactgatcc gctttctgct tcagcttctg aactgatagc ggaaacgtaa ttaagggcta	120
agagcacact actcttagcc ctttaacatt taacgcattg tcacgaactc ttctgccgcc	180
gttgggtgaa tggcgacggg attgtcgaag tcttttttgg ttgcccccat cttcagcgcc	240
accgcgaagc cctgcaacat ttcgtc	266

<210> 484
 <211> 259
 <212> DNA
 <213> Escherichia coli

<400> 484	
cgcaggcagc tgatgggtcaa caggatgaga gaaaccgaga gacagggttaa tcacattgcc	60
tttaaccgct gcacggtaac ctacaccaac cagctgcagc ttcttagtga agccttcggt	120
aacaccgata accattgagt tcagcagggc acgcgcggta ccagcctgtg cccaaccgtc	180
tgcgtaacca tcacgcggac cgaagggtcag ggtattatct gcatgtttaa cttcaacagc	240
atcgttgaga gtacgagtc	259

<210> 485
 <211> 73
 <212> DNA
 <213> Escherichia coli

<400> 485	
caggtcggaa cttacccgac aaggaatttc gctaccttag gaccgttata gttacggccg	60
ccgtttaccg ggg	73